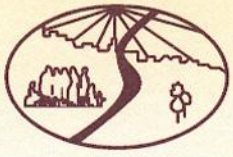
CUISR:

Community – University Institute for Social Research

The Co$t of Homophobia: Literature Review on the Economic Impact of Homophobia On Canada

by Christopher Banks



Building Healthy Sustainable Communities

Community-University Institute for Social Research

CUISR is a partnership between a set of community-based organizations (including Saskatoon District Health, the City of Saskatoon, Quint Development Corporation, the Saskatoon Regional Intersectoral Committee on Human Services) and a large number of faculty and graduate students from the University of Saskatchewan. CUISR's mission is "to serve as a focal point for community-based research and to integrate the various social research needs and experiential knowledge of the community-based organizations with the technical expertise available at the University. It promotes, undertakes, and critically evaluatea applied social research for community-based organizations, and serves as a data clearinghouse for applied and community-based social research. The overall goal of CUISR is to build the capacity of researchers, community-based organizations and citizenry to enhance community quality of life."

This mission is reflected in the following objectives: (1) to build capacity within CBOs to conduct their own applied social research and write grant proposals; (2) to serve as a conduit for the transfer of experientially-based knowledge from the community to the University classroom, and transfer technical expertise from the University to the community and CBOs; (3) to provide CBOs with assistance in the areas of survey sample design, estimation and data analysis, or, where necessary, to undertake survey research that is timely, accurate and reliable; (4) to serve as a central clearinghouse, or data warehouse, for community-based and applied social research findings; and (5) to allow members of the University and CBOs to access a broad range of data over a long time period.

As a starting point, CUISR has established three focused research modules in the areas of Community Health Determinants and Health Policy, Community Economic Development, and Quality of Life Indicators. The three-pronged research thrust underlying the proposed Institute is, in operational terms, highly integrated. The central questions in the three modules—community quality of life, health, and economy—are so interdependent that many of the projects and partners already span and work in more than one module. All of this research is focused on creating and maintaining healthy, sustainable communities.

Research is the driving force that cements the partnership between universities, CBOs, and government in acquiring, transferring, and applying knowledge in the form of policy and programs. Researchers within each of the modules examine these dimensions from their particular perspective, and the results are integrated at the level of the Institute, thus providing a rich, multi-faceted analysis of the common social and economic issues. The integrated results are then communicated to the Community and the University in a number of ways to ensure that research makes a difference in the development of services, implementation of policy, and lives of the people of Saskatoon and Saskatchewan.

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Abstract

Research was reviewed regarding the negative results of homophobia on gays, lesbians and bisexuals (GLB), and the economic impact of such negative effects. Homophobia was defined as the irrational fear of, or aversion to, homosexuals and homosexuality, while the related construct of heterosexism was defined as a belief system that values heterosexuality as superior to and/or more natural than homosexuality, and/or the assumption that all people are heterosexual. The reviewed research showed that GLB and heterosexuals are equivalent in terms of psychological and psychosocial health and functioning, but that GLB have a shorter life expectancy and face health risks and social problems at a greater rate than heterosexuals. The reason for these increased problems is the chronic stress placed on GLB from coping with society's negative responses and stigmatization.

Eight major health and social issues were examined, including suicide, smoking, alcohol abuse, illicit drug use, depression, unemployment, physical violence, and HIV/AIDS. Additionally, because homophobia results in substandard health care for GLB, the issue of access and quality of health care services was examined, for ineffective health services and practices exacerbate the health and social issues that were examined.

Using the assumption that, without the existence of homophobia, GLB and the heterosexual population would have equivalent rates of health and social problems, estimates of the annual cost of homophobia were developed based on five and ten percent base rates of homosexuality:

- Suicide = $695 to $823 million
- Smoking = $281 to $623 million
- Alcohol abuse = $0.29 to $4.1 billion
- Illicit drug use = $119 to $221 million
- Depression = $0.54 to $2.3 billion

There was insufficient data to calculate estimates for the issues of unemployment, physical violence, and Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome (HIV/AIDS). However, the annual costs associated with those issues are substantial, and evidence exists that indicates GLB are at increased risks of being unemployed, of being victims of physical violence, and for contracting HIV/AIDS.

The present research has several weaknesses that are reviewed in the Limitations section. Most of these, however, can be overcome with further research. In general, further research needs to be conducted in the area of homophobia, its consequences on GLB, and the economic impact of those consequences. Additionally, methodological improvements need to be implemented in future research to ensure valid conclusions.

Foreward by Gens Hellquist

Any discussion about homophobia and heterosexism and the resulting health and social costs in the gay, lesbian, and bisexual community ideally should include information from those most impacted by that homophobia and heterosexism. The research in this document ideally should be fleshed out by the real experiences and feelings of those most affected—lesbians, gay men, bisexuals, and their families and friends. After all, the experts on living in the midst of the fear, hate, and intolerance generated by homophobia must be those most impacted.

However, the purpose of this report is to conduct a literature review and arrive at some sense of homophobia and heterosexism's economic impact. It was not possible to also conduct interviews with gay people to document their experiences. However, there are numerous books, articles, and essays written by gay men, lesbians, and bisexuals recounting their own personal journeys to acceptance and healing.

Anyone who is at all observant or part of the identified gay, lesbian, and bisexual community knows all too well the toll in lost lives and lost quality of life so visible in the gay community. In recent years, that toll has been increased by the grief accompanying so many deaths from HIV/AIDS. Although AIDS deaths have been highly visible within the community, countless other lives are lost every year through suicide, substance abuse, and mental illness. Frequently, those deaths occur with little awareness of the factors that led to their occurrence.

My involvement in Saskatoon's gay, lesbian, and bisexual community started in 1965 when I discovered the largely invisible gay subculture that existed in those days. It did not take me long to recognize the pain and hurt that existed in that community, and I was not out long before I heard of the suicide of a man who was part of that small circle of gay men. Soon, I also became aware of the toll that alcoholism was having on individuals' lives within my small community.

In 1971, I was involved with building Saskatoon's first gay and lesbian organization, and since then I have worked with countless others to build organizations, programs and services that enable gay men, lesbians, and bisexuals to come out and create a healthier and more supportive environment for myself, my close family, my friends, and my community. In the early days, these efforts were carried out with little or no support from the larger community. Over the past thirty years, I have also worked with, and been director of, organizations involved in crisis intervention, community development, and community mental health.

Throughout my years of involvement in numerous community grassroots human service organizations, I have been continually confronted by countless individuals struggling to overcome homophobia's hateful messages and find acceptance for who they are. Unfortunately, I have also had to watch many of those women and men lose that

battle and succumb to substance abuse and suicide. I have watched hundreds of gay men and lesbians die before their time from alcoholism and drug abuse, suicide, and AIDS. I am still watching it occur today.

Gay and Lesbian Health Services commissioned this study because we wanted another way to draw attention to the enormous cost that homophobia has on our society. It is a cost that impacts on every member of our society. The most crucial cost is the lives of real people who never had the chance to realize their potential. The families and loved ones of those whose lives ended prematurely also pay a heavy price. They have lost someone they loved, usually for needless reasons. In many cases, they have no idea that their loved one was a victim of homophobia. Ultimately, everyone pays a price in increased health care, social service, justice, and education costs, not to mention the cost of lost productivity of those lives ended prematurely.

While this study focuses on some of the costs to our system from homophobia, we must be aware that this is but the tip of the iceberg. There is a dearth of research on the impact of homophobia on people's lives in many areas. It is also very difficult to conduct accurate research on a population that remains largely hidden. This study is by no means definitive, and further research is crucial. However, we hope that it highlights the urgency of this issue and spurs those in public policy areas to take appropriate actions.

While much progress has been made in equality issues for gay men, lesbians, and bisexuals, the reality remains that our lives do not have much value in our society. However, not valuing our lives has a financial cost on all taxpayers. At a time when the social safety net is stretched to its limit, it is time to address those issues that threaten our social programs. It is time to value the lives of lesbians, gay men, and bisexuals by supporting programs that address the core issues that gay people face in their daily lives.

The ultimate rights we have in our society are to good health and the opportunity to strive to reach our potential without the devastation that results from homophobia. Those rights are still unavailable for most lesbians, gay men, and bisexuals. Homophobia is killing us.

INTRODUCTION

The purpose of this literature review is to examine and synthesize existing data and research on the economic impact of homophobia on Canadian society. In general, the literature search focuses on these questions:

1. What effect does homophobia have on gays, lesbians, and bisexuals (GLB)?
2. Compared to the general population, do GLB have increased rates of health and social problems as a result of homophobia?
3. What is the estimated financial cost to Canadian society from these increased rates of health and social problems?

Some short, informal overviews of the issues related to homophobia, GLB health, and related costs have been attempted (e.g. Hellquist, 1996), but none have attempted to integrate all three components into a single document.

For several reasons, this literature review is not a comprehensive review of homophobia's economic impact in Canada. First, although a wide-ranging search of medical, psychology, sociology, and economic databases was undertaken on subjects related to homophobia, the economic impact of various health and social issues, and the base rate of homosexuality, there are large gaps where no research or data was available. As Ryan et al (2000) pointed out, documentation on GLB health is relatively scarce, and homosexuality issues in general have been largely ignored in mainstream research. Information on the effect homophobia has on GLB health is especially scarce. The present document does not attempt to fill in those knowledge gaps, but rather summarizes current knowledge and suggests future research.

The second reason that this literature review is not comprehensive is that economic impact analysis methodologies are extremely complex. The purpose of this literature review is to make an exploratory effort at estimating homophobia's cost, and so a detailed review of complex economic methodologies is not given. For more detailed examinations of economic impact analyses, see Health Canada (1993) or Goeree et al (1999). Given the emphasis that government policy and decision makers place on economic factors, it is hoped that this exploratory review illustrates the dangers of homophobia on Canadian society.

Third, research and literature reviews already exist that attempt to answer the first two of the three questions above. Therefore, an in-depth analysis of those and some related areas is not repeated in the present review. For example, the present review does not examine in detail the health effects of illicit drug use on humans.

Despite such limitations on this literature review's comprehensiveness, the present review nevertheless accomplishes several important goals. It synthesizes the research on homophobia, GLB health, and social issues, provides an exploratory analysis of homophobia's economic impact, and identifies gaps and further research that needs to be conducted.

HOMOPHOBIA

DEFINING HOMOPHOBIA

Negative attitudes toward homosexuality exist on a continuum from homophobia to heterosexism (Berkman and Zinberg, 1997):

- **Homophobia**: Any belief system that supports negative myths and stereotypes about homosexual people, or any of the varieties of negative attitudes that arise from fear or dislike of homosexuality. It is the irrational fear of, or aversion to, homosexuals and homosexuality.
- **Heterosexism**: A belief system that values heterosexuality as superior to and/or more natural than homosexuality; does not acknowledge the existence of non-heterosexuals; and assumes that all people are heterosexual. It is a belief that heterosexuality is normative and that non-heterosexuality is deviant and intrinsically less desirable.

Homophobia can manifest itself in a number of ways:

- **Internal Homophobia**: Learned biases that individuals, including GLB, incorporate or internalize into their belief systems.[1]
- **External Homophobia**: Overtly observed or experienced expression of internal biases, such as social avoidance, verbal abuse, and civil discrimination.

Additionally, there are other types of homophobia/heterosexism:

- **Institutional Homophobia or Heterosexism**: Refers to the many ways in which governments, businesses, churches, educational institutions, and other organizations and institutions discriminate against people on the basis of sexual orientation. These organizations and institutions set policies, allocate resources, and maintain unwritten standards for the behaviour of their members in discriminatory ways. For example, many religious organizations have stated policies against GLB holding offices; most educational institutions fail or refuse to allocate funds and staff for GLB support groups; and most businesses have norms for social events which prevent GLB employees from bringing their same sex partners while simultaneously encouraging heterosexual employees to bring their opposite sex partners.
- **Cultural Homophobia or Heterosexism**: Refers to social standards and norms which dictate that heterosexuality as better or more moral than homosexuality or bisexuality, and that everyone is, or should be, heterosexual. While these standards are not written down as such, they are promoted each day in television shows where the vast majority of characters and most relationships are heterosexual. Another example is the assumption made by most adults in social situations that "normal" children will eventually be attracted to and marry a person of the opposite sex.

While heterosexual people often do not realize that these standards exist, GLB people are acutely aware of their existence. The feeling that results is one of social exclusion.

Heterosexism is subtler than homophobia and permeates culture and its social institutions (Berkman and Zinberg, 1997). Homophobia and/or heterosexism have been previously demonstrated in mental health practitioners (Rudolph, 1988; Rudolph, 1989; Garfinkle and Morin, 1978; Glenn and Russell, 1986), undergraduates (O'Hare et al, 1996), nurses (Smith, 1993b), governments (Herek, 1990) and social workers (Berkman and Zinberg, 1997).

Homophobia or, more accurately, sexual prejudice can be directed at homosexual behaviour, people with homosexual or bisexual orientation, or GLB communities (Herek, 2000).

Most individuals do not perceive themselves as homophobic, yet unfamiliarity with GLB community members can inadvertently result in acceptance of misinformation or biased attitudes (O'Hanlan, 1995). Several studies have shown that individuals who personally know one or more gay male and/or lesbian (GL) demonstrate less hostility toward all GL (Ellis and Vasseur, 1993; Smith, 1993b).

Available evidence indicates that homophobia and stigmatization of GLB is a serious and prevalent social problem in North America (Tremblay and Ramsay, 2000; Herek, 1991). For example, King et al (1988) found that only 33% of Canadian grade seven students agreed with the statement "Homosexuals should be allowed to be teachers," and only 18% reported that they "would be comfortable talking with a homosexual person."

The reasons for the existence of homophobia are varied and numerous. Other authors have reviewed these reasons in detail (e.g. Stein, 1999). Some examples include:

· There is an absence of accurate and positive portrayals of GLB in mainstream media (O'Hanlan, 1995). There is also a lack of positive GLB role models in society (Morrow, 1993).

· There is an absence of accurate information regarding same-sex orientation available to the public (Dempsey, 1994).

· The American Psychiatric Association regarded homosexuality as psychopathology until 1973. Homosexuality is still a classification category in the International Classification of Diseases (World Health Organization, 1997).

· Some religious institutions and other groups portray homosexuality as immoral and perpetuate negative stereotypes associated with homosexuality (Stokes et al, 1983; O'Brien, 1991; Forstein, 1988).

· The education system does not usually teach school-aged children about sexual diversity or orientation (Morrow, 1993; Remafedi, 1993; Glasgow Women's Library, 1999).

· There are minimal sanctions against those who harass and discriminate against GLB (Morrow, 1993).

· Governments at all levels often pass laws stating that homosexual behaviour is wrong and/or criminal (Dempsey, 1994).

· Most GLB hide their true identity, thereby constituting an invisible population. Therefore, the majority of the heterosexual population does not become familiar with GLB, allowing biases to flourish.

Effect of Homophobia on Gay, Lesbian, and Bisexual Individuals

Being GLB is not genetically or biologically hazardous (O'Hanlan, 1995; Remafedi et al, 1998; Ross et al, 1988). Although few studies have directly linked particular stressors resulting from homophobia and their health and social outcomes, most researchers agree that homophobia increases a multitude of risk factors associated with psychological, psychosocial, psychiatric, social and health problems (Bagley and D'Augelli, 2000; D'Augelli and Hershberger, 1993; Frable et al, 1997; Schneider et al, 1989; Muehrer, 1995) and that homophobia is a major health hazard to GLB and society (Wagner, 1997). Ross (1989) studied homosexually-oriented males in four countries (Sweden, Finland, Ireland, and Australia) and found that homosexual adolescents were likely to have more problems in the more anti-homosexual countries. This suggests that the level of homophobia manifested in a particular country or culture may be linked directly to the extent of GLB health and social problems.

Some examples of the specific problems associated with homophobia include higher rates of depression, anxiety, substance abuse, and other psychological distress (Morrow, 1993; Rudolph, 1988; Rudolph, 1989; Ungvarski and Grossman, 1999; Ziebold and Mongeon, 1982).

Reasons for Negative Effects

In general, the chronic stress of coping with social stigmatization and societal hatred is the primary reason for homophobia's negative effects (Bux, 1996; Greene, 1994; Ross, 1978; Cochran and Mays, 1994; Gillow and Davis, 1987; Savin-Williams, 1994; Ungvarski and Grossman, 1999). Meyer (1995) conceptualized the homophobia that GLB feel as a component of minority stress, which is the psychosocial stress derived from membership in a low status minority group. Meyer (1995) theorized that GLB are subjected to chronic stress related to their stigmatization, internalized homophobia, and actual events of discrimination and violence. More specifically, reasons for the deleterious effects of homophobia are listed below:

· **Lack of Support and Helping Resources**. GLB feel isolation, alienation, and disenfranchisement from the resources and assistance that society ordinarily provides to properly handle life stressors (Waldo et al, 1998; Saunders and Valente, 1987). Well-being and health are negatively affected when GLB do not have social and family support and a sense of community (Nesmith et al, 1999; Strommen, 1989b; Hershberger and D'Augelli, 1995). Although all people experience health and social problems, GLB are especially vulnerable because they lack support and are denied information and helping resources. Additionally, stress caused by homophobia may be worse than other stressors because of the absence of friend and family support systems (Bradford et al, 1994; DiPlacido, 1994; Brooks, 1981; Larson and Chastain, 1990). These support systems are lost because GLB have been rejected or have been encouraged to hide their thoughts and feelings.

· **Internalized Homophobia**. GLB feel distress resulting from internalized negative attitudes toward their own homosexuality (Protor and Groze, 1994; Malyon, 1982; Forstein, 1988; Meyer and Dean, 1996). Internalized homophobia in GLB results in lower levels of community integration and social support, lower self-esteem, increased feelings of guilt, demoralization, alienation, isolation and other problems (Bux, 1996; Meyer and Dean, 1996). Meyer and Dean (1996) found that GLB with greater internalized homophobia had fewer coping abilities. Alternately, Hershberger and D'Augelli (1995) found that self-acceptance (i.e. low internalized homophobia) was the largest predictor of mental well-being in a sample of GLB.

· **Self-concealment of Sexual Orientation**. Many GLB feel a pressure to conform, and fear discrimination and reprisals from living in a homophobic society. This, in turn, leads many GLB to conceal their sexual orientation, to be secretive in their lives, and to repress their feelings, which causes unusual stress (Roberts and Sorensen, 1995; D'Augelli et al, 1998; Ungvarski and Grossman, 1999; Herek, 1991). Concealing homosexuality has been found to have a negative effect on physical health (Larson and Chastain, 1990). Cole et al (1996) found, in their sample of 222 gay and bisexual males (GB), that the incidence of cancer and moderately serious infectious diseases (e.g. pneumonia, bronchitis, sinusitis, tuberculosis) increased in direct proportion to the degree to which participants concealed their homosexual identity. None of these effects could be otherwise accounted for by demographic characteristics, health relevant behavioural patterns, depression, anxiety, repressive coping or social desirability responses biases. In general, openness to others about sexual orientation is associated with better psychological adjustment, less fear of exposure, increased access to mental health services, and increased choice about where to seek help (Bradford et al, 1994). There are, however, also risks associated with such disclosures (Garnets and Kimmel, 1991; Gonsiorek and Rudolph, 1991).

· **Alteration of Behaviour**. Homophobia results in the alteration of behaviour to avoid anti-GLB harassment or violence (e.g. not speaking about their personal lives to co-workers, friends, or family, altering clothing, avoiding physical contact with partner/lover in public, and altering political involvement in community issues). Although these behaviours probably do not directly result in increased health problems, the further isolation that the behaviours entail may indirectly lead to exacerbation of health and social problems.

· **Coming Out Stress**. The process of coming out of secrecy and disclosing one's homosexuality to friends and family is an emotionally stressful process that often results in social rejection, non-supportiveness, shame, diminished self-concept, intolerance, lowered self esteem, emotional isolation, severe anxiety, loss of loved ones, discrimination, verbal and physical abuse, depression, and other stress related patterns (e.g. dissatisfaction with sex lives, problems in close relationships, feeling overwhelmed) (Roberts and Sorensen, 1995; D'Augelli et al, 1998; O'Hanlan, 1995; Schneider et al, 1989; Strommen, 1989a; Strommen, 1989b; Garnets et al, 1990).

· **Coming Out and Risk Behaviours**. The results of revealing one's sexual orientation described above place GLB at risk of engaging in both individual and clusters of risk behaviours (e.g. unsupportive health habits, self-destructive behaviours). Garofalo et al (1998) analyzed data from a survey of 4,159 Massachusetts youth, 104 of whom self-identified as GLB. Results indicated that more than 30 health risk behaviours were positively associated with self-reported GLB orientation, including violence-related behaviours, suicidal ideation and attempts, multiple substance abuse, and sexual risk behaviours.

· **Confusion Related to Expressing Sexuality**. GLB are not confused about sexuality, but are often confused about how to express it in a hostile social environment (Herrell et al, 1999).

· **External Homophobia**. Many outcomes of homophobia are related to external homophobia, such as hostile attitudes, verbal and physical assaults (Herek, 1986; Larsen et al, 1980; Remafedi, 1987; Hershberger and D'Augelli, 1995; Herek, 1991), and denial of employment, housing, custody, and legal representation (Wagner, 1997). For example, victims of GLB violence may suffer psychological and emotional outcomes such as phobias, post-traumatic stress syndromes, chronic pain syndromes, eating disorders, headaches, increased agitation, sleep disorders, uncontrollable crying, and depression (Barnes and Ephross, 1994; Otis and Skinner, 1996).

· **Coping and Substance Abuse**. Wells (1999) noted that GLB may use substances as a means of coping with or escape from painful emotional issues or sexual identity.

Alternative Explanations for Increased Incidences of Negative Health and Social Problems

Fergusson et al (1999) concluded that, although there may be an association between sexual orientation and several health and social problems, the cause of such problems cannot be definitively interpreted as a result of homophobic attitudes and social prejudice. The researchers offered three alternative explanations: (1) associations are artifactual as a result of measurement and other research design problems; (2) the possibility of reverse causality in which people prone to some problems (e.g. psychiatric disorders) are more prone to experience homosexual attraction or contact; and (3) the possibility that lifestyle choices made by GLB place them at greater risk of adverse life events and stresses that include risks of health and social problems, independent of sexual orientation (also discussed by Bux, 1996). The three alternative explanations given by Fergusson et al (1999) have not been accounted for in much of the research conducted in the area.

Bux (1996) reviewed several theories to explain health problems in GLB, including: (1) internalized homophobia (self-hatred of one's own homosexuality); 2) gender-role conflict and gender non-conformity (discomfort or rejection of traditional gender role); (3) social stress and discrimination (GLB experience high levels of stress, tension, and anxiety due to experienced discrimination and prejudice); (4) aspects of gay and lesbian subculture (reliance on bars for social outlets); and (5) differences in social roles and adult development. Bux (1996) found that, although there was little empirical evidence to support any of the stated theories, the social stress and discrimination theory enjoyed the most support. Therefore, although several alternate theories exist to explain health problems in GLB, Bux's (1996) results seem to indicate that homophobia is the most likely cause.

Base Rate of Homosexuality and Bisexuality

The present literature review examines studies estimating the base rate of homosexuality in the general population. This is required because in order to estimate the economic impact of increased health and social issues of gays and lesbians the base rate of homosexuality must be determined (i.e. percentage of the population who are GLB). There are many difficulties in estimating this base rate.

The first difficulty is that there are a multitude of conceptual and operational definitions of the terms "gay," "lesbian," "bisexuality," and "homosexuality." For example, homosexuality can be defined behaviourally (e.g. sexual practices that include homosexual sex) or by identity constructs (e.g. participation in a GLB socio-cultural network). Homosexuality can also be defined as a dichotomous construct, or as a continuum (Kinsey et al, 1948; 1953). Although some viable definitions exist (e.g. "a

man [woman] who has affection and attraction, both emotional and physical, for other men [women]" (Government of Canada, 1998)), a detailed review of the various definitions is not given here (see Stein (1999) for a useful overview of sexual orientation).

A related problem is that studies that use different definitions of homosexuality also use different survey instruments, different assumptions related to the cause of homosexuality (e.g. biological or genetic, psychological, social, character preference), different research settings, and different sampling methods based on those different definitions. This makes comparing base rate studies difficult.

The second major difficulty is that sexual orientation cuts across all social categories, making generalizations from research difficult. Another difficulty is that GLB are relatively hidden in society, making it difficult to ascertain base rates accurately using self-report methods. As long as discrimination exists, the exact prevalence will be impossible to ascertain (Ryan et al, 2000). Furthermore, "estimating a single number for the prevalence of homosexuality is a futile exercise because it presupposes assumptions that are patently false: that homosexuality is a uniform attribute across individuals, that it is stable over time, and that it can be uniformly measured" (Laumann et al, 1994). Stein (1999) therefore suggested that studies should use various estimates of homosexuality's base rate.

The present literature review employed the method of using a low and high estimate of the base rate of homosexuality. **Table 1** lists some estimates from the research literature.

For present purposes, two estimates of homosexuality's base rate in the Canadian population were used. The low estimate was five percent and the high was ten percent. The rationales for choosing these estimates are as follows:

- **Five percent**. This estimate is based on the median (n = 46 results; maximum = 37%; minimum = 0.2%) of the above reviewed studies. Homophobia most certainly leads to an underreporting of homosexuality, and therefore 5% most likely represents a low estimate, but one based on existing research.
- **Ten percent**. This is the most commonly cited base rate for homosexuality and is originally based on Kinsey et al (1948; 1953) research. Although their studies were flawed, re-examinations of the data reveal that ten percent is still a likely base rate for homosexuality, especially given people's reticence to be honest about their sexuality in research. It is entirely possible that homosexuality's base rate is greater than 10%. However, present research methodologies do not allow for the GLB "hidden population" to be accurately counted.

Consistent with the 5% and 10% estimates used in the present research, Bagley and Tremblay (1997b) also used these estimates for the base rate of homosexuality in the male population ("wholly or predominately homosexual" category). Additionally,

Table 1. Estimates of the Base Rate of Homosexuality and Bisexuality.

Estimate of Percentage of Population that is Homosexual	Definition of Homosexuality (Population Description)	Research Study
37	Men admitting to at least some overt homosexual experience between adolescence and old age (5300 white males in the United States).	Kinsey et al (1948)
20.3	Adult males having had a homosexual experience to orgasm (Data from National Opinion Research Center survey of 1450 males in the United States).	Fay et al (1989)
18.6	Males reporting same-sex attraction to or sexual behaviour since age 15 (3381 participants in the United States, France and the United Kingdom).	Sell et al (1995)
18.6	Females reporting same-sex attraction to or sexual behaviour since age 15 (1874 participants in the United States, France and the United Kingdom).	Sell et al (1995)
17	High estimate of predominant same sex orientation (review of Kinsey et al (1948) and Laumann et al (1994) studies adjusting for possible risks involved in self-disclosure).	Gonsiorek et al (1995)
15.3	Males reporting being homosexual to some degree (stratified random sample of 750 males in Calgary).	Bagley and Tremblay (1997a)
13	Women admitting to at least some overt homosexual experience between adolescence and old age (5940 white females in the United States).	Kinsey et al (1948)
10	Men who are more or less exclusively homosexual for at least three years (5300 white males in the United States).	Kinsey et al (1948)
9.2	High estimate from a male twin study (161 males in the United States).	Bailey and Pillard (1991)
9	Men reporting having had homosexual experiences frequently or ongoing (cross sectional nationwide survey of American adults aged 18 and over).	Janus and Janus (1993)
7.5	Males reporting same-sex sexual partner in last five years (3685 participants in the United States, France and the United Kingdom).	Sell et al (1995)
7	High estimate of males having experienced some same sex sexual contact in adulthood (review of five probability surveys from 1970 to 1990 in the United States involving 8,857 participants).	Rogers and Turner (1991)
7	Males having a homosexual experience during more than three years of their lives (volunteer survey of 2036 people).	Hunt (1974)
6.9	High estimate of females reporting homosexual behaviour (Review of studies conducted in Japan, Thailand, Denmark, France, Palau, Great Britain, and Australia from 1948 to 1991).	Diamond (1993)
6	High estimate of individuals reporting to be homosexual or bisexual since age 18 (Probability sample of approximately 1500 people; nationally representative in the United States).	Smith (1991)
5.5	Males reporting homosexual behaviour (Review of studies on homosexual behaviour from 1948 to 1991).	Diamond (1993)
5.3	Men reporting sexual activity with a same gender partner since age 18 (National probability surveys with 3941 respondents in the United States between 1989 and 1994).	Binson et al (1995)
5.3	Male respondents who reported having same-gender sexual activity (Stratified random sample of ~4,300 Grade 8 to 12 students in Vermont).	Safe Schools Coalition of Washington (1999)
5	Low estimate of males having experienced some same sex sexual contact in adulthood (review of five probability surveys from 1970 to 1990 in the United States involving 8,857 participants).	Rogers and Turner (1991)
5	Low estimate of individuals reporting to be homosexual or bisexual since age 18 (probability sample of approximately 1500 people; nationally representative in the United States).	Smith (1991)
5	Women reporting having had homosexual experiences frequently or ongoing (cross sectional nationwide survey of American adults aged 18 and over).	Janus and Janus (1993)
4.5	Respondents who described themselves as GLB (Census study of 8,406 Grade 9 to 12 students in Seattle).	Safe Schools Coalition of Washington (1999)
4	Low estimate of predominant same sex orientation (review of Kinsey et al (1948) and Laumann et al (1994) studies adjusting for possible risks involved in self-disclosure).	Gonsiorek et al (1995)
4	Men who were exclusively homosexual throughout their lives from adolescence on (5300 white males in the United States).	Kinsey, Pomeroy, and Martin (1948)
4	Males predominately or exclusively homosexual (White college-educated males).	Gebhard (1972)
4	Men reporting a same sex sexual partner in the previous five years (Aged 16 to 50 years).	Taylor (1993)

Table 1 (cont'd). Estimates of the Base Rate of Homosexuality and Bisexuality.

Estimate of Percentage of Population that is Homosexual	Definition of Homosexuality (Population Description)	Research Study
4	Respondents who described themselves as GLB and/or had same-gender experience (Stratified random sample of 3,982 Grade 9 to 12 students in Massachusetts).	Safe Schools Coalition of Washington (1999)
3.7	Orientation given as bisexual or homosexual (Telephone survey of 663 males using a national probability sample in the United States).	Harry (1990)
3.6	Average estimate of females reporting homosexual behaviour (Review of studies conducted in the United States from 1948 to 1991).	Diamond (1993)
3.4	Female respondents who reported having same-gender sexual activity (Stratified random sample of ~4,300 Grade 8 to 12 students in Vermont).	Safe Schools Coalition of Washington (1999)
3.3	Adult males reporting having had homosexual sex occasionally or fairly often at some point in their adult lives (Data from National Opinion Research Center survey of 1450 males in the United States).	Fay et al (1989)
3	High estimate of women who were exclusively homosexual throughout their lives from adolescence on (5940 white females in the United States).	Kinsey et al (1948)
3	Females having a homosexual experience during more than three years of their lives (Volunteer survey of 2036 people).	Hunt (1974)
3	Women reporting a same sex sexual partner in the previous five years (Aged 16 to 50 years).	Taylor (1993)
2.8	Females reporting same-sex sexual partner in the last five years (2027 participants in the United States, France and the United Kingdom).	Sell et al (1995)
2.8	Men reporting some level of homosexual (or bisexual) identity (Random probability sample of 3432 men and women in the United States between the ages of 18 and 59).	Laumann et al (1994)
2.5	Average estimate of females reporting homosexual behaviour (Review of studies conducted in Japan, Thailand, Denmark, France, Palau, Great Britain, and Australia from 1948 to 1991).	Diamond (1993)
2.3	Males admitting to a same sex experience in the last ten years (3300 men aged 20 to 39 in the United States).	Billy et al (1993)
2	Self identified gay men (40 Twin adult males in Washington, D.C.).	Hamer et al (1993)
1.5	Females predominately or exclusively homosexual (White college-educated females).	Gebhard (1972)
1.4	Women reporting some level of homosexual (or bisexual) identity (Random probability sample of 3432 men and women in the United States between the ages of 18 and 59).	Laumann et al (1994)
1.3	Men reporting same-sex partner (4066 males).	Pietropinto and Simenauer (1977)
1.1	Males admitting they were exclusively gay (National probability sample of 3321 men aged 20 to 39 in the United States).	Billy et al (1993)
1.1	Respondents describing themselves as bisexual, mostly homosexual or 100% homosexual (Stratified random samples of 36,254 Grade 7 to 12 students in Minnesota).	Safe Schools Coalition of Washington (1999)
1	Low estimate of women who were exclusively homosexual throughout their lives from adolescence on (5,940 white females in the United States).	Kinsey et al (1948)
0.2	Low estimate of females reporting homosexual behaviour (Review of studies conducted in Japan, Thailand, Denmark, France, Palau, Great Britain, and Australia from 1948 to 1991).	Diamond (1993)

Note: Studies differ in conceptual and operational definitions, methodology, and response rates. Divergent estimates of homosexuality's base rate probably result from whether research focused on sexual experience or sexual identity. Additionally, studies estimating base rates assume: (1) everyone is conscious of his or her true sexual desires; (2) everyone's self reports can be trusted; (3) everyone is comfortable admitting them; and (4) everyone is able to fit himself or herself into researchers' commonsense categories of sexual orientation. Most GLB individuals will find it difficult to speak about their sexual behaviours and fantasies because of homophobia and repression (Stein, 1999). Because of these factors, the above studies most likely underreport homosexuality's base rate.

Hogg et al (1997) used three scenarios for homosexuality's base rate based on extensive empirical evidence: 3, 6, and 9% of the population. Again, these estimates are similar to the ones used in the present research, and encompass both conservative and liberal estimates. For a detailed review of the measurement of sexual orientation, see Gonsiorek et al (1995).

Health and Social Issues of Gays, Lesbians, and Bisexuals

Gays, lesbians, and bisexuals face health risks and social problems not inherent in sexual orientation itself, but rather due to society's negative responses (O'Hanlan et al, 1996). Extensive research reveals that there are no differences between GLB and heterosexual people in levels of maturity, neuroticism, psychological adjustment, goal orientation, or self actualization (Bersoff and Ogden, 1991; Dancey, 1990; Freedman, 1971; Gartrell, 1981; Hart et al, 1978; Herek, 1990; Hooker, 1969; Kurdek and Schmitt, 1986; Pagelow, 1980; Peters and Cantrell, 1991; Ross et al, 1988; Siegelman, 1979; Stokes et al, 1983; Thompson et al, 1971). Yet there is a large discrepancy between the life expectancy of GLB and that of heterosexuals. Statistics Canada (2001h) reported that average life expectancy in 1990-1992 for Canadian males was 75 years and 81 years for Canadian females. In a flawed study, Cameron et al (1998) found that the median age of death for homosexuals was less than 50 years. A more rigorous study by Hogg et al (1997) found that the life expectancy of 20 year old GB men in Vancouver was 34 to 46.3 more years, as compared to 54.3 more years for 20 year old non-GLB men. Therefore, GLB life expectancy is significantly lower than the heterosexual population. There is evidence that this decreased life expectancy is due to increased levels of health and social problems faced by GLB.

Research and data in eight major health and social areas are examined in this literature review: (1) suicide; (2) smoking; (3) alcohol abuse; (4) illicit drug use; (5) depression; (6) unemployment; (7) physical violence; and (8) HIV/AIDS. The additional issue of access to health care and services is also examined even though no economic analysis is presented. This is because homophobia often results in substandard services from health care providers (e.g. discrimination, misdiagnosis) that exacerbates the severity of GLB health and social problems.

The issues under consideration were limited to those where there was research or data available, and where an economic impact could be estimated in some manner. For example, there is evidence that GLB suffer higher incidences of eating disorders (Lee, 2000; Yager et al, 1988) and cancer (Ungvarski and Grossman, 1999). However, there is presently insufficient data to make useful estimates. There are also many issues related in some way to those discussed in the present review. For example, low self-esteem,

shame, anxiety, mood disturbance, demoralization, and guilt are all likely outcomes of homophobia in GLB. However, they are not examined in detail here because data did not exist on the economic impact of those issues.

Calculation of Economic Cost Estimates

Although approximate costs and cost ranges are given for several health and social issues, it should be remembered that these estimates are only preliminary because there are many gaps in the research.

Additionally, many of the health and social issues discussed most likely have reciprocal relationships. To separate the cost of each issue independent of others is likely impossible. For example, it is not clear at this time whether unemployment causes, predetermines, or has any role in substance abuse, or, alternately, whether substance abuse causes, predetermines, or has any role in unemployment. Another example is alcoholism as a risk factor for suicide. Determining how many GLB suicides are due to alcoholism alone, how many are due to homophobia alone, and how many are due to a combination may never be known. As stated earlier, these issues are likely interrelated and an exact cause-effect relationship cannot be determined. However, each issue can be separately examined. Because of the interrelationships among all these issues, and because homophobia is likely not the sole cause of increased health and social problems in GLB, a grand total estimate of the economic impact of all issues cannot be presented. Instead, a rough estimate of each individual issue is presented.

Given these caveats, the general method of calculating cost estimates was as follows:

- **Calculation of Rates**. The relative GLB and heterosexual rates for particular health and social issues were estimated from existing literature (e.g. 25% of all Canadian are smokers compared to 40% of GLB). Most commonly, two rates were used for GLB. The first was the percentage of the GLB population suffering from the particular problem. This was estimated using the median of several research studies. The second rate was the number of times greater the GLB rate was compared to a heterosexual control sample. Not all studies reported this information, but for studies that did, the median was used. **Appendix A** shows detailed calculations for each estimate presented.
- **Estimation of Total Cost**. The total cost to Canada, either as a total cost, a cost per capita (total population), or a cost per person (e.g. cost per smoker) of each issue was estimated.
- **Monetary Conversions**. Any relevant monetary conversions were made. The conversions were conducted using a year-sensitive currency converter computer program (e.g. to convert 1985 US dollars to 1985 Canadian dollars) and an inflation adjuster program (e.g. to convert 1985 Canadian dollars to 2000 Canadian dollars).

· **Number of GLB**. The total number of GLB in Canada was estimated and subtracted from the total Canadian population. This resulted in a total heterosexual Canadian population. Two estimates of the base rate of homosexuality were used throughout (i.e. 5% and 10%).

· **Number of Sufferers**. Given the rates of health and social problems estimated previously, the total number of GLB and heterosexuals suffering from the particular problem was estimated.

· **Equivalency of Rates**. An assumption was made that without the existence of homophobia and its deleterious effects, equivalent proportions of GLB and heterosexuals would be susceptible to the health and social issues reviewed.

· **Extra Sufferers**. The total number of "extra" GLB sufferers of a particular health or social problem was estimated. This figure was calculated by multiplying the total number of GLB by the heterosexual rate of the health or social issue, then subtracting this number from the actual number of GLB who suffer from the health or social issue.

· **Total Annual Cost**. The total economic impact was estimated from the total or per person cost. This total cost of homophobia was obtained by multiplying the "extra" GLB sufferers by the per person cost of the health or social issue.

It is important to note that the present literature review probably used conservative estimates of the cost of homophobia becauselimited information was available. For example, many suicides go unreported and the sexual orientation of many Canadians remains hidden. Also, no calculations were made in the present review to estimate the human cost of suffering, both by GLB and their friends and families, or the cost of the informal care provided by friends and family (Rice, 1993).

SUICIDE

General Population Statistics

Statistics Canada (2001k) data on suicides and suicide rates indicates that there were 3681 reported suicides in Canada in 1997, the eleventh leading cause of death (Statistics Canada, 2001f). This represents a rate of 0.0123% or 12.3 per 100,000. Suicides accounted for 1.7% of all deaths in 1997. There were 8,626 deaths by unintentional injuries in 1997 and 1,163 deaths due to neurotic disorders, personality disorders and other non-psychotic mental disorders. Many of these deaths could plausibly be unreported suicides. Therefore, the 0.0123% rate is probably an underestimate.

Gay, Lesbian, and Bisexual Statistics

Romero (1999) found a strong association between instances of homophobia experienced by gay men and thoughts of suicide. Additionally, there is extensive research on rates of

suicide attempts in GLB (see Tremblay (2000) for a review). Remafedi (1999a) reviewed six controlled, population-based surveys in the United States and Canada and found that in all six, attempted suicide rates were higher in GLB compared to their heterosexual peers. **Table 2** summarizes the results from individual studies examining attempted GLB suicide rates.

In addition to the data in **Table 2**, one particularly rigorous and methodologically sound study is of special note. In a study of 103 adult male twins, Herrell et al (1999) developed a model that estimated the rate of suicide attempts in twins reporting same-gender sexual orientation to be 6.5 times higher than twins reporting no same-gender sexual orientation. The unadjusted suicide rates in their sample were 14.7% for twins reporting same-gender sexual orientation and 3.9% for twins reporting no same-gender sexual orientation.

In addition to increased levels of suicide attempts, Kourany (1987) and Remafedi et al (1991) reported that self-injurious acts of homosexual adolescents and adults were more serious and lethal, were of limited rescuability, and more often resulted in hospitalization than those of their heterosexual peers. Bagley and Tremblay (1997a) also reported that homosexually-oriented males form the majority of male hospitalizations and probably deaths resulting from suicide attempts.

Data on GLB completed suicides is less extensive than attempted suicide rates. Kroll and Warneke (1995), Gibson (1994), and Remafedi (1994) reported that GLB youth account for 30% of completed youth suicides. Remafedi (1987), Schneider et al (1989), and Remafedi et al (1991) estimated that GLB teenagers account for 20-40% of all completed suicides. Bagley and Tremblay (1997a) reviewed twelve North American studies on suicide rates of gay and bisexual males and found that the suicide rate was approximately 31.3% in 1990. Preliminary research by Tremblay (1994 and 1996) indicated that more than half of male youth suicide victims were homosexually oriented. Tremblay (1995) suggested that up to 50% of male youth suicide deaths might involve homosexually-oriented males.

There are several problems associated with estimating the number of GLB who commit suicide (Remafedi, 1999b; Remafedi et al, 1998; Remafedi et al, 1991):

· Coroners and medical examiners may not be told about the sexual orientation of the victim because family members suppress that information; therefore, sexual orientation is not reflected in death certificates.

· Some GLB, fearing homophobic attitudes, may not have told anyone about their sexual orientation or about their intention to commit suicide.

· Sexual orientation of suicide victims is difficult to obtain posthumously.

Table 2. Percentage of Gays, Lesbians and Bisexuals Who Attempt Suicide.

Percentage of GLB who Attempted Suicide	X Times Heterosexual Control Sample	Number of Participants Involved In Study	Sample Description	Research Study
40.3	N/A	159	Gay and bisexual males; mean age ~ 19 years; United States and Canada youth groups.	Proctor and Groze (1994)
40	N/A	5,000	Homosexual men and women.	Jay and Young (1979)
39	N/A	138	Gay and bisexual males; mean age = 16.8 years; New York.	Rotheram-Borus et al (1994)
35.5	3.3 times	104	Homosexual and bisexual males and females; Massachusetts.	Garofalo et al (1998)
35.3	N/A	34	Gay, lesbian and bisexual school students; United States.	Jordan et al (1997)
34	N/A	29	Gay and bisexual males; mean age = 18.3 years; United States.	Remafedi (1987)
32.1	4.5 times	28	Birth cohort study; age = 21 years; New Zealand.	Fergusson et al (1999)
32	N/A	54	Gay, lesbian and bisexual youth; mean age ~ 18.5 years; United States.	Waldo et al (1998)
31.3	8.7 times	80	Males with male sex partner in lifetime; age range = 17 to 39 years; United States.	Cochran and Mays (2000a)
31.3	9.2 times	80	Males with male sex partner in lifetime; are range = 17 to 39 years; United States.	Cochran and Mays (2000a)
31	N/A	60	Gay and bisexual males; mean age = 20.0 years; United States.	Roesler and Deisher (1972)
31	3.4 times	129	Homosexual, bisexual and unsure males and females; mean age = 16.1 years; Massachusetts.	Garofalo et al (1999)
30	N/A	137	Gay and bisexual males; mean age = 19.6 years; United States.	Remafedi et al (1991)
30	N/A	90	Gay, lesbian and bisexual youth; mean age ~ 18 years; United States.	Grossman and Kerner (1998)
30	N/A	239	Gay and bisexual males; mean age = 19.9 years; United States.	Remafedi (1994)
30	N/A	137	Homosexual respondents.	Remafedi et al (1991)
30	N/A	N/A	High estimate of gay and lesbian youth.	Whitcock (1988)
28.8	4 times	53	Gay and bisexual males; age range = 18 to 25 years; Australia.	Nicholas and Howard (1998)
28.1	7 times	~360	Gay and bisexual males; Minnesota.	Remafedi et al (1998)
27.5	2 times	113	Homosexual and bisexual sexually active males and females; Massachusetts.	Faulkner and Cranston (1998)
26	N/A	77	Gay and bisexual males; mean age ~ 23.5 years; Canada.	Magnuson (1992)
25.7	N/A	52	Gay, lesbian and bisexual youth; United States.	Hecht (1998)
25	N/A	28	Gays, lesbians and bisexuals; mean age ~ 23.0 years; United States.	Hammelman (1993)
24.4	3 to 4 times	394	Gay and bisexual males and females; mean age = 14.9 years; Minnesota.	Saewyc et al (1998)
23.6	N/A	229	Gay and bisexual males; mean age = 33.0 years; Australia.	Kelly et al (1998)
22.8	N/A	139	Gay and bisexual males; mean age = 36.4 years; Switzerland.	Cochand and Bovet (1998)

Table 2 (cont'd). Percentage of Gays, Lesbians and Bisexuals Who Attempt Suicide.

Percentage of GLB who Attempted Suicide	X Times Heterosexual Control Sample	Number of Participants Involved In Study	Sample Description	Research Study
21	N/A	500	Gay, lesbian and bisexual youth; mean age ~ 17.0 years; New York.	Martin and Hetrick (1988)
21	10.5 times	N/A	Black homosexual men.	Bell and Weinberg (1978)
20	N/A	108	Gay and bisexual males; mean age = 20.6 years; United States.	Schneider et al (1989)
20	N/A	141	Gay and bisexual males; mean age = ~ 17.0 years; Chicago.	Herdt and Boxer (1993)
20	N/A	20	Gay, lesbian and bisexual youth; United States.	Dohaney (1995)
20	N/A	108	Gay males.	Schneider et al (1989)
20	N/A	N/A	Low estimate of gay and lesbian youth.	Whitcock (1988)
19.3	5.4 times	3648	Males with male sex partner in lifetime; are range = 17 to 39 years; United States.	Cochran and Mays (2000a)
18.4	6 times	683	White and black gay and bisexual males; mean age = 36.0 years; United States.	Harry (1983)
18	N/A	1,898	Lesbians; age range = 17 to 80 years; all 50 American states.	Bradford et al (1994)
15.5	3 times	82	Gay and bisexual, celibate males; mean age = 22.7 years; Canada.	Bagley and Tremblay (1997a)
14.4	5.8 times	575	White, gay and bisexual males; mean age = 36.0 years; United States.	Bell and Weinberg (1978)
12.4	2 times	137	Gay and bisexual males; mean age = 20.4 years; Belgium.	Vinke and van Heeringen (1998)
9.5	13.6 times	575	White, gay and bisexual males; mean age = 36.0 years; United States.	Bell and Weinberg (1978)
6.1	13.9 times	82	Gay and bisexual sexually active males; mean age = 22.7 years; Canada.	Bagley and Tremblay (1997a)

Note: N/A = not available or not reported.

- Openly GLB individuals are only a subset of the GLB population. Therefore, suicide rate results may not generalize to the entire GLB population.
- Attempted suicide behaviours and completed suicides represent somewhat different phenomena.
- Many incidents, such as single vehicle automobile accidents, may be suicides incorrectly interpreted as accidents.
- Clustering of variables such as substance abuse, depression, and family dysfunction limits the ability to conclude that homophobia was the root cause of the suicide.[2]

Bagley and Tremblay (1997a) concluded that most researchers have not yet acquired the skills needed to discover the homosexual orientation of GLB individuals after their suicide death. However, Garland and Ziegler (1993), Lewinsohn et al (1993), and Shafii et al (1985) reported that the best predictor of a completed suicide is a previous suicide attempt.

There are three types of research on which to estimate the GLB suicide rate in

Canada. The first is direct evidence, which indicates that approximately 30% of all suicides are GLB. The second is the attempted suicide rate. Of the 44 research results reviewed, the median attempted suicide rate for GLB was approximately 28% (the mean was also 28%). The third is theGLB attempted suicide rate as compared to a heterosexual control sample. Of the 17 studies with such data, the median was 5.8 times higher and the mean 6.5 times. Assuming that attempted suicides predict completed suicides, the attempted suicide rate of 28% can be used as an estimate of the suicide rate for GLB. Even if this number over-estimates the number of completed suicides, the under-reporting of suicides, especially of GLB suicides, would tend to make this estimate more reasonable. Additionally, the estimate of 28% is congruent with the direct evidence, suggesting 30% of completed suicides are GLB. Two estimates, then, one relative to the heterosexual population (approximately six times the heterosexual rate) and one independent of the heterosexual population (30% of suicides are GLB), were used for suicide rates of GLB.

Economic Impact

Clayton and Barcelo (1996) estimated the cost of the 94 suicides in New Brunswick in 1996 to be $535,158 for direct costs (i.e. ambulance services, hospital services, physician services, autopsies, funerals, and police investigations) and $79,353,354 for indirect costs (i.e. lost productivity due to premature death). If the researchers' estimate of a total cost of $849,878 per suicide is generalizable to Canada as a whole—which is reasonable given Canada's relative homogeneity across provinces in relation to suicide methods and health costs (Statistics Canada, 2001c; Statistics Canada, 2001g)—suicides cost Canada approximately $3.13 billion in 1997. **Table 3** is a summary of the four estimates of the total cost of suicide in Canada related to homophobia (see **Appendix A** for detailed calculations).

Table 3. Homophobia and Suicide: Four Estimates of Annual Costs.

Estimated Annual Cost (1997)	Method Used (Cost per suicide = $849,878)
$823 million	5% base rate; 30% of completed suicides are GLB.
$813 million	5% base rate; GLB suicide rate is 6 times the non-GLB rate.
$695 million	10% base rate; 30% of completed suicides are GLB.
$730 million	10% base rate; GLB suicide rate is 6 times the non-GLB rate.
Range of Estimates = $695 to $823 million	

Note: Base rate = percentage of the population that is GLB. See Appendix A **for explanation of the higher estimate for the 5% base rate as compared to the 10% base rate.**

Smoking

General Population Statistics

Health Canada's (2000) Canadian Tobacco Use Monitoring Survey indicated that in 1999, 25% (6.07 million out of a total of 24.3 million) of the Canadian population over 15 years of age were smokers.[3] Ellison et al (1995) estimated the number of deaths attributable to smoking for Canada in 2000 at 46,910.

Gay, Lesbian, and Bisexual Statistics

Table 4 summarizes some of the research related to GLB smoking rates. Of the nine studies reviewed, the median and mean GLB smoking rates were both 39%. Based on the median of the five studies where that information was available, it was estimated that 1.7 times as many GLB as heterosexuals smoked.[4]

Economic Impact

Riley (1998) estimated that smoking cost Canada $9.5 billion, or $1,425 per smoker, in 1992 (based on Gilmore's (2000) estimate of a 31% smoking rate in 1992). The 1999 cost would be approximately $1,567 per smoker in 1999 Canadian dollars. Single, Robson et al (1996) estimated that there were 33,498 tobacco-related deaths, 208,095 tobacco-related hospitalizations, and 3,024,265 tobacco-related hospital days in Canada in 1992. Smoking deaths accounted for 17% of total mortality and 16% of the total years of life lost due to any cause. Robson and Single (1995) conducted a literature review of the economic costs of substance abuse and found that the estimated total cost of tobacco was between $200 and $300 per capita (1993 US dollars) for the United States, and $232 per capita for Australia (1994 US dollars). **Table 5** summarizes the four estimates of the economic impact of homophobia as related to smoking.

Alcohol Abuse

General Population Statistics

WebMD Canada (1999) reported that 7% of the U.S. population suffers from alcoholism. While approximately 55% of Canadians consume one or more drinks per month (Statistics Canada, 2001a), the 1996-97 National Population Health Survey (Statistics Canada, 1998) found that 2.5% of Canadians reported drinking at levels associated with clinical dependence on alcohol. Singleet al (1995) found that 9.2% of adult Canadians reported having alcohol problems. The Addiction Research Foundation (2001) estimated that, based on liver cirrhosis mortality and per capita alcohol consumption data, 5% of the adult population was alcoholic. In a survey of Ontario adults, Adlaf et al (1994) found that 5.3% met the alcohol dependence criteria. In a large survey, Grant et al (1994) found that 3% of American adults abused alcohol. Given the results described above, an estimate that 5% of the general population suffers from alcoholism, alcohol abuse, or problem drinking was used.

Table 4. Percentage of Gays, Lesbians, and Bisexuals Who Smoke.

Percentage of GLB Who Smoke	X Times Heterosexual Control Sample	Number of Participants Involved in Study	Sample Description	Research Study
59.3	1.7 times	104	GLB youth reporting smoking cigarettes in last 30 days.	Garofalo et al (1998)
47.8	N/A	2,593	Gay men reporting current smoking in Tucson, Arizona and Portland, Oregon.	Stall et al (1999)
43	2.0 times	N/A	High estimate for lesbians reporting smoking cigarettes in the past month.	Lee (2000)
42.7	N/A	489	Lesbians in the Southern United States.	Skinner and Otis (1996)
40	N/A	N/A	Average of six studies in gay adult men.	Stall et al (1999)
38	1.7 times	N/A	Low estimate for lesbians reporting smoking cigarettes in the past month.	Lee (2000)
35	1.3 times	N/A	Gay men.	Lee (2000)
34.9	N/A	556	Gay men in the Southern United States.	Skinner and Otis (1996)
30	N/A	1,791	National American sample of lesbians indicating they smoked cigarettes daily.	Bradford et al (1994)
22.9	1.3 times	105	Sexually active GL, Massachusetts high school students.	Faulkner and Cranston (1998)
20.1	-0.77 times	1633	American lesbians.	Roberts and Sorensen (1999)

Note: N/A = not available or not reported.

Table 5. Homophobia and Smoking: Four Estimates of Annual Costs.

Estimated Annual Cost (1999)	Method Used (Cost per smoker = $1,567)
$281 million	5% base rate; GLB smoking rate is 39%; non-GLB smoking rate is 24 %.
$341 million	5% base rate; GLB smoking rate is 1.7 times the non-GLB smoking rate of 24%.
$592 million	10% base rate; GLB smoking rate is 39%; non-GLB smoking rate is 24 %.
$623 million	10% base rate; GLB smoking rate is 1.7 times the non-GLB smoking rate of 23%.
Range of Estimates = $281 to $623 million	

Note: Base rate = percentage of the population that is GLB. See Appendix A **for calculations of GLB and non-GLB smoking rates.**

Gay, Lesbian, and Bisexual Statistics

No studies have found a relationship between homosexuality itself and alcoholism (Small and Leach, 1977), although several studies have found higher incidences of alcoholism in GLB. Some researchers contend that the alienation and isolation that GLB experience

as a result of society's rejection and oppression of homosexuality is the reason for higher incidences of alcoholism (Small and Leach, 1977; Ungvarski and Grossman, 1999; Weinberg and Williams, 1974). Researchers also contend that alcohol-related problems lose their intensity when GLB's environment is not homophobic. Alderson (2001) cited evidence that not accepting one's homosexuality, which may be related to homophobia, may be causally related to the high incidence of alcohol abuse in the gay community. Williamson (2000) contended that internalized homophobia in GLB results in less effective coping strategies, such as alcohol abuse. Johnson and Palermo (1985) believe that the minority status of homosexuals itself is not the primary cause of alcoholism, but rather that the homophobia of individuals in treatment programs is the primary causal factor. This homophobia is manifested through behaviours such as refusal of services, nonconductive attitudes of treatment workers, and isolation of lesbianism as the problem with little attention directed toward alcoholism, resulting in ineffective treatment.

Table 6 summarizes the incidence of alcohol abuse in GLB. Of the nine studies with such information (excluding the Gillow and Davis (1987) research that was not measuring alcohol abuse per se), the median and mean incidence of alcohol abuse in GLB was 24%. In terms of the GLB rate relative to the heterosexual rate, the median of the seven studies with such data was 1.6 times. As stated previously, inconsistencies in sampling methods and criteria for alcoholism and the invisibility of the GLB population greatly limits the generalizability of the research summarized above.

Economic Impact

Riley (1998) estimated that alcohol abuse cost Canada approximately $7.5 billion in 1991. The total cost included $4.14 billon in lost productivity due to morbidity and premature mortality, $1.36 billion in law enforcement, and $1.30 billon in direct health care costs. In 2000 dollars, the estimate is approximately $7,881 dollars per alcohol abuser (assuming a 5% incidence rate of alcohol abuse in adults). This was the estimate used to calculate the four overall estimates in **Table 7**.

Single et al (1996) examined the costs of substance abuse in Canada, which included intangible costs, welfare costs, non-workforce death and illness, research, education and enforcement costs, and avoidable costs. The researchers found that there were 6,701 deaths, 86,076 hospitalizations, and 1,149,106 hospital days due to alcohol consumption in 1992.

Gorsky et al (1988) estimated that alcohol abuse is a factor in more than 10% of all deaths (e.g. traffic accidents, homicide, suicide) Harwood et al (1998) found that in the United States alcohol abusers and their households bore approximately 45% of the cost of alcohol abuse; the government 39%, private insurance companies 10%, and victims 6% of the cost. Robson and Single (1995) reviewed studies on the total cost of alcohol and found that the total cost relative to GDP for Canada in 1990 was 2.7%.

Table 6. Percentage of Gays, Lesbians, and Bisexuals Who Abuse Alcohol.

Percentage of GLB Who Abuse Alcohol	X Times Heterosexual Control Sample	Number of Participants Involved in Study	Sample Description	Research Study
59	N/A	142	Lesbians reporting use of alcoholic beverages to cope with stress.	Gillow and Davis (1987)
35	7 times	N/A	Low estimate of incidence of alcoholism in lesbians from a review of four studies.	Johnson and Palermo (1985)
30	1.5 times	N/A	Problem drinking in homosexual population.	Barr et al (1974)
29.4	N/A	2,497	Male homosexuals in the United States, the Netherlands and Denmark reporting drinking problems.	Weinberg and Williams (1974)
25	5 times	N/A	High estimate of incidence of alcoholism in lesbians from a review of four studies.	Johnson and Palermo (1985)
25	N/A	1,852	National American sample of lesbians.	Bradford et al (1994)
23	2.9 times	748	Lesbians classified as having an alcohol problem in a Chicago sample.	McKirnan and Peterson (1989a; 1989b)
23	1.4 times	2652	Gay men classified as having an alcohol problem in a Chicago sample.	McKirnan and Peterson (1989a; 1989b)
18.7	1.7 times	748	Male homosexuals aged 25 to 54 who exhibited frequent/heavy-drinking patterns.	Stall and Wiley (1988)
13.2	0.94 times	553	Gay male problem drinkers in the Southern United States.	Skinner and Otis (1996)
10.9	9.1 times	105	Sexually active GL, Massachusetts high school students.	Faulkner and Cranston (1998)
10.6	1.4 times	98	Male homosexuals dependent on alcohol.	Cochran and Mays (2000)
10	1.4 times	1055	Male and female homosexuals classified as problem drinkers in the Southern United States.	Skinner and Otis (1996)
7.5	3.2 times	491	Lesbian problem drinkers in the Southern United States.	Skinner and Otis (1996)
7	3.2 times	96	Lesbians dependent on alcohol.	Cochran and Mays (2000b)
N/A	Equal	55	Homosexual and bisexual women reporting heavy alcohol consumption.	Bloomfield (1993)

Note: Operational definitions of alcohol abuse and homosexuality vary across the studies reviewed. N/A = not available or not reported.

Table 7. Homophobia and Alcohol Abuse: Four Estimates of Annual Costs

Estimated Annual Cost (2000)	Method Used (Cost per alcohol abuser = $7881)
$1.96 billion	5% base rate; GLB alcohol abuse rate is 24%; non-GLB alcohol abuse rate is 4%.
$0.29 billion	5% base rate; GLB alcohol abuse rate is 1.6 times the non-GLB alcohol abuse rate of 4.9%.
$4.14 billion	10% base rate; GLB alcohol abuse rate is 24%; non-GLB alcohol abuse rate is 2.9%.
$0.56 billion	10% base rate; GLB alcohol abuse rate is 1.6 times the non-GLB alcohol abuse rate of 4.7%.
Range of Estimates = $0.29 to $4.14 billion	

Note: Base rate = percentage of the population that is GLB. See Appendix A **for calculations of GLB and non-GLB alcohol abuse rates.**

Illicit Drug Use

General Population Statistics

The Canadian Health Network (1999) reported that 7.4% of Canadians used marijuana, 0.7% used cocaine, and 1.1% used LSD, speed, or heroin. Citing data from the Centre for Addiction and Mental Health's monitoring studies, the City of Toronto Drug Prevention Centre (2000) reported that less than 1% of adult Canadians had used crack cocaine or heroin in the past year, 10% had used marijuana in 1999, and 1% had used cocaine in 1998. No satisfactory method exists to estimate the percentage of the Canadian population who use illicit drugs because there are numerous types of illicit drugs and individuals use different drugs in different combinations in different quantities over different amounts of time. Although combining relative rates of marijuana, cocaine, heroin, and other drug use is not ideal, for the present exploratory literature review a figure of 3.5% was used for the rate of illicit drug use in Canada. This represents the mean of the research results listed above. It also represents a conservative estimate because it is known that more than this percentage of the population uses marijuana. However, as mentioned previously, drug use overlaps in individuals, and marijuana is most likely the least costly on society.

Gay, Lesbian, and Bisexual Statistics

Research indicates that GLB have increased levels of illicit drug use compared to heterosexuals (Skinner, 1994). **Table 8** is a summary of the individual studies of GLB illicit drug use rates.

Studies on the use of illicit drugs vary widely in terms of GLB rates. This is most likely a result of the differences in drugs used and the age of study participants. Since the percentage of GLB who use illicit drugs varies so considerably, the only estimate used was the number of times the GLB rate was compared to the heterosexual rate. Of the sixteen studies with such data, the median was 2.6 times and the mean 4.3 times. As there were several outliers (i.e. numbers that skew the rest of the data) that unduly influenced the mean, the median rate of 2.6 times was used. This is most likely a conservative estimate. However, given the inability to accurately estimate the GLB or heterosexual rate, it was the most reasonable.

Economic Impact

Riley (1998) estimated the cost of illicit substance abuse to be $1.4 billion in Canada in 1992. This estimate included costs related to the number of deaths and hospitalizations attributable to illicit drug use, the resulting burden on the health care system, productivity losses, administration of substance-related social welfare payments, law enforcement, prevention, research, and other direct costs (e.g. fire damage). In 2000, the estimate equates to $1.6 billion (assuming similar substance abuse rates) or $1,837 per illicit drug user (assuming a 3.5% incidence rate). Single, Robson, Xie and Rehm (1996)

estimated that there were 732 drug-related deaths, 7,095 drug-related hospitalizations, and 58,571 drug-related hospital days in Canada in 1992. Robson and Single (1995) reviewed several studies that indicated the total cost of illicit drug use per year to be approximately 1.0% of the GDP, although the researchers suggested that this may be an overestimate. **Table 9** shows two estimates using the $1,837 per illicit drug user figure.

Table 8. Percentage of Gays, Lesbians, and Bisexuals Who Use Illicit Drugs.

Percentage of Gays, Lesbians or Bisexuals who use Illicit Drugs	X Times Hetero-sexual Control Sample	Number of Participants Involved in Study	Sample Description	Research Study
58	N/A	29	Gay and bisexual male youths meeting criteria for substance abuse.	Remafedi (1987)
53.7	1.7 times	104	GLB reporting use of marijuana in last 30 days	Garofalo et al (1998)
36.5	2.5 times	558	Gay men reporting marijuana use in the Southern United States.	Skinner and Otis (1996)
36.1	4.4 times	492	Lesbians reporting marijuana use in the Southern United States.	Skinner and Otis (1996)
35.8	1.6 times	324	GLB high school youth reporting heavy or high-risk drug use in the United States.	Safe Schools Coalition of Washington (1999)
35	3.2 times	N/A	High estimate of non-parenteral substance abuse in GL	Council on Scientific Affairs (1996)
28	2.5 times	N/A	Low estimate of non-parenteral substance abuse in GL	Council on Scientific Affairs (1996)
25.3	9.4 times	104	GLB reporting use of cocaine in last 30 days	Garofalo et al (1998)
20.8	6.7 times	105	Sexually active GL Massachusetts high school students reporting using injection drugs at least once.	Faulkner and Cranston (1998)
14	N/A	1,917	Lesbians reporting using marijuana daily or more than once a week	Bradford et al (1994)
13.3	19 times	105	Sexually active GL Massachusetts high school students reporting using cocaine 10 or more times.	Faulkner and Cranston (1998)
12.4	3.8 times	105	Sexually active GL Massachusetts high school students reporting using marijuana 40 or more times.	Faulkner and Cranston (1998)
11	1.2 times	748	GLB in Chicago reporting frequent use of marijuana.	McKirnan and Peterson (1989a; 1989b)
9.7	1.5 times	558	Gay men reporting cocaine use in the Southern United States.	Skinner and Otis (1996)
7.1	2.6 times	492	Lesbians reporting cocaine use in the Southern United States.	Skinner and Otis (1996)
5.7	2.0 times	98	Homosexual men dependent on illicit drugs	Cochran and Mays (2000b)
5	3.8 times	96	Homosexual women dependent on illicit drugs	Cochran and Mays (2000b)
3	N/A	1,917	Lesbians reporting using cocaine more than once a week or more than once a month	Bradford et al (1994)
2.3	3.3 times	2652	GLB in Chicago reporting frequent use of cocaine.	McKirnan and Peterson (1989a; 1989b)

Note: Studies differ in operational definitions of illicit drug use and in the types of illicit drugs used. Also, youth and adult rates most likely differ in the GLB and heterosexual populations. N/A = not available or not reported.

Table 9. Homophobia and Illicit Drug Use: Two Estimates of Annual Costs.

Estimated Annual Cost (2000)	Method Used (Cost per illicit drug user = $1,837)
$119 million	5% base rate; GLB illicit drug use rate is 2.6 tim es the non-GLB illicit drug use rate of 3.2%.
$221 million	10% base rate; GLB illicit drug use rate is 2.6 tim es the non-GLB illicit drug use rate of 3.0%.
Range of Estimates = $119 to $221 million	

Note: Base rate = percentage of the population that is GLB. See Appendix A **for calculations of GLB and non-GLB illicit drug rates.**

DEPRESSION[5]

General Population Statistics

Statistics Canada (2001j) reported that in 1996-1997 approximately 1.32 million people, or 4.4% of the population, reported feeling depressed. Naiman (2000) reported that 10% of the Canadian workforce suffers from mental illness. The Mood Disorders Association of Manitoba (2001) found that depression and/or manic-depression (bipolar disorder) occurs in approximately 25% of all women and 11% of all men in Canada at some point in their lives. Patten (2000) analyzed data from the Canadian National Population Health Survey in 1994-1995 and 1996-1997 and found the following prevalence rates for major depression: 5.2% (males 12 to 24 years old); 3.5% (males 25 to 44 years old); 3.5% (males 45 to 64 years old); 9.6% (females 12 to 24 years old); 8.6% (females 25 to 44 years old); 6.3% (females 45 to 64 years old); and 3.1% (females over 65 years old). Feightner (1994) estimated the prevalence of depression in the general population to be between 3.5% and 27% depending on the definition used and the population studied. Given these findings, an estimate of 5% was used as the percentage of the population suffering from depression. The Statistics Canada (2001j) and Patten (2000) studies were given more credence because they used Canadian population data and were based on sounder research methods.

Gay, Lesbian, and Bisexual Statistics

There is no evidence that GLB are any different to heterosexuals in their psychological stability and mental functioning (Ross, 1985). Most psychological problems experienced by gay males and lesbian females (GL) are due to coping with negative reactions if he/she is openly homosexual, or coping with the anxieties of keeping sexual orientation hidden and fear of disclosure if he/she is not openly homosexual. Dempsey (1994) found that GL adolescents were likely to experience greater psychological dysfunction than non-GL peers. D'Augelli (1998) reported on the negative mental health consequences of growing up in a climate of homophobic intolerance. Bell and Weinberg's (1978) study of 1500 men and women in San Francisco found that 56% of gay men (compared to 27% of heterosexual males) and 66% of lesbians (compared to 41% of

heterosexual females) reported having consulted a professional about emotional problems at some time in their lives. Morgan (1992) found that 78% of 100 sampled lesbians and 29% of 309 sampled heterosexual women reported having been in psychotherapy at some time in their lives. **Table 10** reviews the research on depression in GLB.

Table 10. Percentage of Gays, Lesbians, and Bisexuals Who Suffer From Depression.

Percentage of GLB Suffering from Depression	X Times Heterosexual Control Sample	Number of Participants Involved in Study	Sample Description	Research Study
71.4	1.9 times	28	Gay, lesbians and bisexual New Zealanders (aged 14 to 21 y ears) in a 21-year longitudinal study suffering from major depression.	Ferguson et al (1999)
37	N/A	1,925	National American survey of lesbians reporting having suffered from depression sometime in the past.	Bradford et al (1994)
30	N/A	N/A	National American sample of lesbians reporting having been in therapy for depression.	Sorensen and Roberts (1993)
15.3	2.4 times	78	Men reporting same-sex sexual partners meeting the criteria for major depression.	Cochran and Mays (2000a)
15	1.8 times	96	Homosexual women suffering from major depression.	Cochran and Mays (2000b)
13.3	3.0 times	98	Homosexual men suffering from major depression.	Cochran and Mays (2000b)
11	N/A	1,925	National American survey of lesbians currently suffering from major depression.	Bradford et al (1994)

Note: The disparity in the Fergusson, Horwood and Beatrais (1999) study was not associated with any significant differences in social, family, or childhood backgrounds. N/A = not available or not reported.

The median percentage of GLB suffering from depression from the research summarized above was 15.3%. Based on studies that contained such information, GLB are 2.15 times more likely to suffer from depression than heterosexuals.

Economic Impact

Health Canada (1993) estimated that mental disorders cost Canada $5 billion in direct costs and approximately $3 billion in indirect costs in 1993. Naiman (2000) reported that mental illness costs Canada about $16 billion a year. A survey reported in The Economist (1998) stated that the annual cost of depression to business was approximately $6,000 (US dollars) per depressed worker. The Centre of Addiction and Mental Health Foundation (2001) estimated that depression costs the Canadian economy more than $12 billion a year. The Canadian Business and Economic Round Table on Mental Health (2000) estimated that mental disorders cost Canadians more than $8 billion each year in disability and lost productivity.

Although the exact figure can never be known, a reasonable estimate for the cost of depression based on the above estimates is $10 billion in 2000. This equates to $8039 per sufferer of depression in the year 2000 (assuming a 5% prevalence rate). Four estimates of the economic impact of depression as caused by homophobia are shown in **Table 11**.

Table 11. Homophobia and Depression: Four Estimates of Annual Costs.

Estimated Annual Cost (2000)	Method Used (Cost per depression sufferer = $8,039)
$1.1 billion	5% base rate; GLB depression rate is 15.3%; non-GLB depression rate is 4.5%.
$0.54 billion	5% base rate; GLB depression rate is 2.15 tim es the non-GLB depression rate of 4.7%.
$2.3 billion	10% base rate; GLB depression rate is 15.3%; non-GLB depression rate is 3.9%.
$1.0 billion	10% base rate; GLB depression rate is 2.15 tim es the non-GLB depression rate of 4.5%.
Range of Estimates = $0.54 to $2.3 b illion	

Note: Base rate = percentage of the population that is GLB. See Appendix A **for calculations of GLB and non-GLB depression rates.**

UNEMPLOYMENT

General Population Statistics

Statistics Canada (2001d and 2001i) data on the Labour Force indicated that, in 2000, 6.81% or 1,089,600 out of the total labour force of 15,999,200 people were unemployed.

Gay, Lesbian, and Bisexual Statistics

There is some evidence that GLB have a higher unemployment rate than heterosexuals (Fastfax, 2000). Pagelow (1980) described the problems incurred by GLB in attaining and maintaining employment (e.g. subject to coercion and blackballing, paranoia, constant anxiety). Bradford et al (1994) found that thirteen percent of their national American sample of 1,917 lesbians had lost their jobs because of anti-gay discrimination. The Glasgow Women's Library (1999) reported that 42% of unemployed GL survey respondents perceived their unemployment to be related to their sexuality, and 20% of respondents stated that they had had to leave employment or had been refused work due to their sexuality or the homophobia of others. Skinner and Otis (1996) found that 3.5% of their sample of 1067 GLB were unemployed, although no comparison data was reported. Based on data from the 1996 New Zealand census, Byrne (1997) reported that the unemployment rate was 1.32 times higher for lesbians as compared to heterosexual women (6.2% versus 4.7%) and 1.38 times higher for gay men as compared to heterosexual men (5.5% versus 4.0%). Mutchler and Freeman (1999) found that 25.4% of their sample of GLB in Los Angeles were unemployed.

Exacerbating employment problems of GLB is high school dropout rates. Remafedi (1994) cited an American study that found that the high-school dropout rate for GLB youth was 28% compared to 9% for their heterosexual counterparts. This is primarily due to discrimination (e.g. verbal and physical harassment) of GLB young people by peers (Roberts and Sorensen, 1995) and the isolation many GLB feel (Rivers, 2000). Remafedi (1987) reported that 28% of his sample of 29 GB male teenagers had dropped out of high school.

There was minimal data on the unemployment rate of GLB in Canada. No estimation was therefore calculated based on GLB unemployment rates.

Economic Impact

Bedard (1996) reviewed the various methods to obtain an estimate of the economic costs of unemployment in Canada. His estimate for 1994 (when unemployment was 10.4%) was $29-$77 billion. A proper estimate for the year 2000 (when unemployment was 6.8%) was not calculable. However, a rough estimate suggested the figure to be approximately $19-$55 billon (assuming a linear relationship).

Because little information exists to estimate the GLB unemployment rate in Canada, a slightly different method was used to estimate the impact of homophobia for this social issue. That is, an estimation of the cost per unemployed (GLB or heterosexual) person was used. If research in the future demonstrates that GLB unemployment is higher than heterosexual unemployment, an appropriate estimation of the total cost can be made at that time.

If unemployment cost Canada $29-$77 billion in 1994 when 10.4 percent of the labour force (1,549,600 people) were unemployed, then each unemployed person cost the economy between $18,715 and $49,690. Put another way, every 100 unemployed people costs Canada between $1.87 and $4.97 million.

Physical Violence

General Population Statistics

Statistics Canada (2001b) data indicated that there were 221,281 assaults recorded in 1999 from a total population of 30,493,400, which translates into a rate of 0.73% or 72.6 per 100,000 people. Obviously, this includes only reported assaults, and does not include numerous unreported assaults.

Gay, Lesbian, and Bisexual Statistics

Several surveys have reported anti-gay and lesbian rates of physical violence (e.g. Telljohann and Price, 1993). Savin-Williams (1994) reported that GLB youth are the subject of frequent physical abuse. High rates of verbal abuse also exist (e.g. Herek, 1993), but only physical violence was examined for the present literature review. Berrill

(1990) reviewed several studies on GLB victimization and found that between 9% and 24% of gay men and lesbians had been the victims of a physical assault. Otis and Skinner (1996) also reported that several studies show hate crimes against gay men and lesbians increased substantially from the early 1980s to the early 1990s. Roberts (1995) reported that 11% of all hate crimes are directed against gays and lesbians. **Table 12** reviews findings from several studies on physical violence against GLB.

Economic Impact

There is little data related to the costs of physical assault on society. McGovern et al (2000) examined work-related physical assaults in Minnesota in 1996. They found that for 344 nonfatal work-related assaults, the cost was $5,885,448, or $17,109 (1996 US dollars) per case. Given the paucity of information on the costs of physical violence, no estimate of the economic costs of physical violence can be made at this time. However, given the substantial percentage of GLB who report being physically assaulted (i.e. the median of 11 studies was 32.6 percent), the economic cost is undoubtedly considerable.

Table 12. Percentage of Gays, Lesbians, and Bisexuals Victimized by Physical Assault.

Percentage of GLB Victimized by Physical Assault	Number of Participants Involved in Study	Location	Research Study
44.1	59	United States	Barnes and Ephross (1994)
44	N/A	Glasgow, Scotland	Glasgow Women's Library (1999)
40	N/A	Massachusetts	Lee (2000)
40	500	New York	Hunter (1990)
37	1,917	All 50 American states	Bradford et al (1994)
32.6	420	Vancouver	Samis (1995)
25.5	105	Massachusetts	Faulkner and Cranston (1998)
20.6	368	Toronto	Faulkner (1997)
18	294	Nova Scotia	Smith (1993a)
16	176	New Brunswick	New Brunswick Coalition for Human Right Reform (1990)
7.3	1067	Southern United States	Otis and Skinner (1996)

Note: N/A = not applicable or not reported.

HIV/AIDS

General Population Statistics

Health Canada (1999a) reported the HIV and AIDS cases and exposure categories shown in **Table 13**. In terms of risky sexual behaviour, Health Canada (1999b) reported that in 1994, 26% of men and 19% of women always used condoms with non-regular partners. Additionally, in 1997, 27.7% of men and 28.1% of women did not use a condom the last time that they had sexual intercourse with a non-regular partner.

Gay, Lesbian, and Bisexual Statistics

Health Canada (1996) reported that GLB youth have a higher risk of HIV infection than the general youth population. As can be seen in **Table 13**, homosexual contact (men who have sex with men) accounted for 52.2 percent of AIDS cases and 25.0 percent of HIV cases in 1997. Although GLB could have constituted a proportion of the HIV and AIDS cases in other exposure categories (e.g. occupational exposure), this proportion would be small.

There are several reasons for the increased rates of HIV and AIDS in GLB. First, as was demonstrated previously, GLB use illicit drugs and abuse alcohol at higher rates than the heterosexual population. Research shows that heavy alcohol and drug users more often engage in unsafe sex and therefore risk contracting HIV/AIDS (Ostrow, 2000).

Second, Meyer and Dean (1996) and O'Hanlan et al (1996) reported that GLB with higher internalized homophobia engaged in risky sexual behaviours at a greater rate than GLB with lower internalized homophobia. Additionally, Williamson (2000) reported that GLB with higher internalized homophobia were less affiliated with the gay community and therefore had less access to safer sex information and resources.

Third, Peersman et al (2000) reported that people who live at the margins of mainstream society, including GLB, are more vulnerable to HIV/AIDS infection. In particular, men who have sex with men are at an exceedingly high risk for HIV infection (Johnson and Peersman, 2000). Furthermore, HIV has disproportionately affected the gay community, which has led to even greater stigmatization (Ostrow, 2000).

Table 13. AIDS and HIV Cases in Canada for 1997.

Exposure Category	HIV Cases	AIDS Cases
Men who have sex with men	492	330
Injecting drug use	434	97
Men who have sex with men and injecting drug use	31	26
Heterosexual contact	285	112
Occupational exposure	--	1
Recipient of blood or clotting factor	15	14
No identified risk – heterosexual	--	29
No identified risk factor	658	23
Perinatal	28	--
Other	23	--
Total	**1,966**	**632**

Note: The category "Men who have sex with men" may include individuals who do not label themselves as GB.

Finally, Leserman et al (2000) found that stressful life events, depression, and dissatisfaction with social support were also associated with an increased risk of contracting AIDS and the progression of HIV.

Economic Impact[6]

HIV infection was the fifteenth leading cause of death in 1997 (Statistics Canada, 2001f). Single et al (1996) reported that the daily hospital cost for treating an AIDS patient is considerably higher than for other patients. Hanvelt et al (1994) estimated that deaths due to HIV/AIDS in Canada for the period 1987 to 1991 for men aged 25-64 years accounted for a loss of $2.11 billion (US). The average cost per death was calculated to be $558,000 (1990 US dollars). This loss represents only the indirect costs related to loss of future production due to premature mortality and does not include the suffering of AIDS patients, lost productivity of family and friends who spend time providing care, or costs associated with prevention, diagnosis, or treatment. The authors also noted that the underreporting of HIV/AIDS by approximately 15-20% probably led to an underestimation of total indirect costs. Two other studies estimated that 80% of all attributable costs associated with HIV/AIDS are due to future production losses, while the remaining 20% are due to personal medical and non-medical care costs (direct costs) and all other indirect costs (Harkness, 1989; Fraser and Cox, 1988). The loss to Canada's future production as a result of AIDS ranged from $300,000 to $800,000 (Canadian dollars) per case.

Albert and Williams (1998) conducted the most rigorous and comprehensive analysis of the economic costs of HIV/AIDS in Canada. They estimated the total economic burden associated with the HIV/AIDS epidemic to 1998 to be $36.3 billion ($6.4 billion in direct costs and $29.9 billion in indirect costs) or about $1,200 per Canadian. This total does not include costs associated with expected new infections for subsequent years. Albert and Williams (1998) estimated that the cost of every new HIV/AIDS case costs Canada approximately $753,000 over a 17-year episode. However, this figure is an average across a spectrum of income earners and different stages of illness, and is meant to be applied to general populations only. For the purposes of the present literature review, the estimate of $753,000 per HIV/AIDS case is a useful average.

It would not be valid to estimate the economic impact of homophobia as it relates to HIV/AIDS because there is no way to equate GLB and heterosexuals. This is because risky sexual behaviour cannot be conclusively linked to homophobia. Unsafe sexual practices were prevalent in both the GLB and heterosexual populations when the HIV/AIDS epidemic first appeared. Although homophobia probably contributes to risky sexual behaviour and thus increased incidences of HIV/AIDS in the GLB population, cost estimates would be futile at this time. However, it can be concluded that for every 1000 new HIV/AIDS cases, Canada loses approximately $753 million. Even if a small percentage of those cases were due to homophobia, the economic burden would be substantial.

Corollary Issue: Access to Health Care and Services

An additional issue faced by GLB is the effect of prejudice, discrimination, and inadvertent or purposeful alienation by the social and health care communities (O'Hanlan, 1995). Homophobia in the health care sector increases rates of health and social problems in GLB because they are treated improperly or ineffectively, especially given that GLB have special health needs (Waugh, 1996). Some examples of the additional burdens and issues faced by GLB because of homophobia in health care services are listed below:[7]

· The existence of homophobia in counselors can interfere with counseling, lead to inappropriate choices of treatment modality and goals, result in minimizing the importance of the client's sexual orientation and the negative effects of heterosexism, view homosexual orientation as the pathological underlying cause of all of the client's problems, and generally reduce the success of substance abuse treatment programs (Berkman and Zinberg, 1997; Hall, 1990).

· Gentry (1992), Lee (2000), Jones and Gabriel (1999), Baker (1993), McGarry et al (2000), Kroll and Warneke (1995), Roberts and Sorensen (1995), Savin-Williams (1994), and Shelby (1999) reported that health care providers rarely ask about sexual orientation (i.e. heterosexuality is assumed).

· Many health care professionals are unaware of the special issues related to GLB health care (Ungvarski and Grossman, 1999; Lee, 2000).

· GLB often delay or decline seeking medical assistance, including routine preventative health care, fearing ridicule, abuse, doctor prejudice, discrimination, disclosing of sexual orientation to friends and family, exploitation, rejection, neglect, and unconcern (Godin, Naccache and Pelletier, 2000; Stevens, 1994; Gentry, 1992; Wagner, 1997).

· The fears described above are demonstrated in research by Dardick and Grady (1980), who found that less than 50% of openly homosexual men told their primary health care provider that they were gay, while Johnson and Palermo (1985) found that only 18% of women studied had revealed their sexual orientation to a physician.

· Stevens and Hall (1991) cited several examples of lesbians' negative experience in health care settings and subsequent delay in seeking treatment. Stigmatization results in GLB reluctance to seek health care or communicate openly in health care encounters. Stevens (1994) found that 44% of the forty-five lesbians interviewed did not feel safe enough or respected enough to continue contact with health care providers.

· Roberts and Sorensen (1995) and Ryan et al (2000) reviewed several studies and found that health care providers consistently demonstrated negative attitudes and

behaviours (e.g. embarrassment, anxiety, pity, disgust, revulsion, hostility, rejection, condescension) and discomfort when treating GLB. Lesbians consistently reported fear that their quality of health care would be affected if they disclosed their sexuality. It was also found that the discomfort of both health care providers and patients could lead to a lack of sharing information, delay in care for illnesses, and reluctance to have routine health promotion visits.

· Schatz and O'Hanlan (1994) reported that two-thirds of 700 physicians knew patients who were denied or given substandard care by physicians because of sexual orientation.

· Nystrom (1997) reported that 25% of 1500 GLB and trans-gendered respondents who had seen a mental health provider in the last twelve months said that they had, at some time in their lives, received "poor or inappropriate mental health services because of [their] sexual orientation."

· Brogan et al (1999) described harassment of lesbians during medical education and practice, which may discourage many lesbians from becoming physicians and providing the empathetic care needed by many lesbian patients. Absence of GLB in the health care system also allows prejudice and misinformation to flourish (Shelby, 1999).

Summary of Economic Impact Estimates

Table 14 summarizes the estimates of the economic impact of homophobia on Canada.

Table 14. Estimations of the Annual Economic Impact of Homophobia on Canada.

Health or Social Issue	Year Estimated	Low Estimate	High Estimate
Suicide	1997	$695	$823
Smoking	1999	$281	$623
Alcohol Abuse	2000	$285	$4,139
Illicit Drug Use	2000	$119	$221
Depression	2000	$543	$2,289

Note: Dollar amounts are in millions of Canadian dollars for the year indicated.

There were three issues where an economic impact analysis was not feasible (see **Table 15**). Although there was some research indicating that GLB have higher unemployment rates than the heterosexual population, there was insufficient data to calculate the GLB unemployment rate in Canada. It can be stated, however, that the cost of unemployment is high, and that for every 1,000 unemployed GLB, Canada loses between $19 and $50 million per year (1994 Canadian dollars).

There was clear evidence that GLB are victims of physical violence at a much higher rate than the heterosexual population. However, there was limited estimations of the economic cost of physical violence.

The GB male population has been hit especially hard by the HIV/AIDS epidemic. It cannot be assumed, however, that GLB and heterosexual populations have equivalent rates of infection without the presence of homophobia. This is because of the transmission routes of the disease, concentration of the epidemic in the GB male community in the early stages of the epidemic, and inability to separate GLB from the injectable drug user exposure category. It can be concluded, however, that for every 1000 HIV/AIDS cases, the cost to Canada is $753 million.

Table 15. Health and Social Issues Without Economic Impact Estimates.

Health or Social Issue	Year Estimated	Annual Estimates
Unemployment	1994	$19 to $50 per 1000 unemployed people
Physical Violence	N/A	Insufficient information to estimate (but substantial)
HIV/AIDS	1998	$753 per 1000 HIV/AIDS cases

Note: Dollar amounts are in millions of Canadian Dollars for the year indicated. N/A = not applicable or not reported.

Research clearly demonstrates that homophobia results in substandard health care for GLB, and that GLB do not properly access and use the health care system because of homophobia. This problem intensifies the problems faced by GLB and undoubtedly substantially adds to the cost of homophobia in Canada. However, no cost estimates were made as insufficient data existed.

LIMITATIONS

LITERATURE REVIEW

The present literature review has several limitations, which are discussed below:

- **Exploratory Nature of the Review**. A review connecting homophobia, homophobia's impact on GLB health and the resultant economic impact has not been attempted before. As with any exploratory attempt not firmly established in the research, there is both limited precedent and opportunity to learn from previous work.
- **Economic Costs are Only Estimations**. The use of economic appraisal to evaluate the cost of certain health and social issues has increased in the last few years (Goeree et al, 1999). These appraisals estimate direct health care costs, in addition to the financial burden of lost productivity due to premature mortality and illness.

These economic appraisals, however, are estimates because the exact costs cannot be known. These cost estimates are not objectively determinable because there is a considerable amount of unknown information in the area of homophobia, homosexuality, and the economic impact of health and social issues of GLB. Several cost estimates were presented in the literature review. The approximations and estimates given are only meant to raise awareness of the relevant issues, point to future necessary research, and give a general sense of the cost of homophobia on Canadian society.

· **Generalizability of Research**. Some of the data and research reviewed here has been culled from American and European sources from the past 30 years. The results from these studies are not directly generalizable to Canada in the present time period. However, these studies are similar to the results of Canadian studies, and, additionally, since most results were fairly consistent across time and throughout different geographic areas, they supported the Canadian results. More generally, Canada, the United States, and European countries have much in common, including similar standards of living, GLB-related laws, economic conditions, and health care practices and standards that make research generalizations more plausible, although by no means certain.

· **Synthesizing of Research**. The present literature review combines studies that vary considerably in their definitions, methodologies, results, and conclusions. For example, dozens of articles related to attempted suicide rates in GLB were reviewed. A median or mean rate was calculated from those studies. However, each study differed in terms of how "homosexuality" or "attempted suicide" was defined, and how the sample was collected from the data. Combining the results across these studies is problematic. However, because the median or mean rate from among those studies was used, the research that tended to underestimate rates and the research that tended to overestimate rates would have balanced each other. Although "true" rates can probably never be known for the various health and social issues reviewed in this document, the methodology used is the best available alternative.

· **Non-Weighting of Research**. A median or mean estimate for the different rates of health and social problems experienced by GLB was used to calculate the economic cost of homophobia. No extra weighting was given to studies of higher quality (e.g. more methodologically sound, using samples more representative of the population) or studies with larger sample sizes, which could be considered a weakness of the present review. A decision was made to give equal weight to all the individual studies. Therefore, using the median or mean was the appropriate methodology. A benefit of this approach is that the median tends to eliminate results that represent outliers in the research.

- **Overgeneralization of Research**. As there are large gaps in the literature, overgeneralization is another difficulty with the present review. For example, few studies have directly linked homophobia with increased health and social problems in GLB. The major assumption of the present literature review is that homophobia is the primary cause of increased incidences of health and social problems in GLB. Also, cost estimates of various health and social issues were usually meant to be applied to the Canadian population as a whole, not specifically to the GLB population. Generalizations based on limited research and applied to specific sub-populations is problematic.

- **Diversity of GLB Populations**. Obtaining research examining homosexual males, homosexual females, bisexual males, and bisexual females separately was very difficult. Although these groups represent distinct and diverse populations with unique issues, the present review treated research exploring these different groups as homogenous. The reason for examining the communities collectively was for brevity. For the sake of presenting an initial exploratory review of the area, no attempt was made to uncover differences between those groups. This limits the degree of specific conclusions that can be made about the relative impact of homophobia on those different groups.

- **Unaccounted For Variables**. Related to the generalization problem is that the GLB population (or, more accurately, the GLB sample used to generalize to the GLB population) studied in much of the research reviewed might have been different than the heterosexual Canadian population in ways that might account for the increased health and social issue rates in GLB. For example, the GLB samples studied might have been different in terms of socio-economic status than the heterosexual control samples in many studies. This itself might account for increased health problems in GLB. Whether homophobia is partly or wholly responsible is unknown at this time.[8]

Even given these real and potential limitations in the present review, there are several beneficial outcomes. First, even if skeptics do not accept that homophobia is the principal determinant of increased rates of health and social problems in GLB, that these increased health and social problems are strongly evident in the literature is an important finding itself. Second, this review may be an impetus to conduct further research in the area. Third, efforts aimed at the elimination of homophobia, including better access to health care and more appropriate and sensitive health care services for the GLB population, may be taken as a greater priority given its economic impact on all of Canada.

Research Reviewed

Conclusions based on literature reviews are only as good as the availability of quality research. Put another way, the information summarized in this review suffers from the same limitations of the research reviewed. Instead of discussing the weaknesses of the individual research studies, for the sake of brevity general limitations are discussed below.

- **Small Sample Sizes**. Research that collected data from a relatively small number of GLB subjects reduced the ability to generalize to broader populations and reduced the ability to detect differences with heterosexual populations (e.g. Remafedi, 1987). Also, studies that compared homosexual and heterosexual samples, but did not match participants according to race, age, income, location, or education, decreased the ability to conclude that unmeasured, systematic differences between the two groups were not the reason for observed differences.
- **Respondents Declining to Participate**. Research in which potential participants declined to respond might have biased the results. That is, low response rates to surveys may result in a selection bias, which may result in an under- or over-reporting of the phenomena under study.
- **Clinical Samples**. GLB samples drawn from clinical samples probably do not represent the total GLB population. Also, studies using psychiatric histories as a data source may under-report certain self-destructive behaviours, such as suicide attempts. This is because older individuals may not recall or interpret early self-destructive behaviours as suicide attempts during a psychiatric interview focusing on lifetime symptoms
- **Under-representation of Certain Groups**. Research conducted on white males, which constituted a large portion of the research reviewed, under-represented ethnic GLB, and white lesbians and bisexuals. This under-representation might have biased the results. For example, research has shown that males and females have different timelines for "coming out" (D'Augelli and Hershberger, 1993).
- **Cross-sectional Designs**. Research that was cross-sectional in design could only examine the association between homophobia, sexual orientation, and increased rates of health and social issues. However, no definitive conclusions about causality can be made from cross-sectional designs. Also, cross-sectional data does not allow information to be gleaned about changes over time.
- **Self-report Designs**. Data gathered using self-report techniques does not allow researchers to know whether respondents under- or over-reported the existence or frequency of health and social issues. More specifically, sexual orientation data gathered using self-report instruments is problematic. Even when anonymous techniques are employed, social stigma probably prevents many respondents from

self-identifying as GLB. It is likely that self-report techniques under-report GLB orientation.

· **Convenience Samples**. Samples drawn from convenience and opportunistic (e.g. snow-ball) samples and non-randomized samples reduces the ability to generalize the results. For example, some researchers who reported elevated rates of alcohol abuse drew their samples from bar-patrons.

· **Samples from Specific Geographic Areas**. Data gathered from specific geographic areas reduces the generalizability of the results to other geographic areas. One reason for this is because communities vary in their acceptance of GLB.

· **Disclosure of Orientation and Health and Social Problems**. It is unknown whether a willingness to disclose sexual orientation (socially stigmatizing information) is positively associated with a similar willingness to disclose health and social problems. If this relationship exists, it would tend to over-estimate health and social problems in GLB.

· **Response Bias**. Research has not been able to uncover whether elevated levels of health and social problems in GLB are due to stigmatization and psychosocial stress related to homophobia, or whether they are due to differences in response bias in which there is possibly a lower threshold among GLB for reporting such problems.

· **Consistency of Definitions**. In general, GLB health and social research lacks consistent conceptual and operational definitions and standardized measures. This is especially true for definition of sexual orientation (e.g. definitions of homosexuality can be based on behaviour, desire, or identity).

· **Differences Among Age Groups**. Different studies focusing on particular age groups (e.g. youth between 12 and 16) had inconsistent definitions of the age groups (e.g. one study defined youth as persons under age 24). An additional problem is that different age groups may face varying levels of homophobia, stress, and health and social problems. This precludes any strong synthesizing conclusions being made about the results of those studies. In suicide research, it is unknown whether the risk of suicide peaks at adolescence or remains constant through out the life cycle, which makes any generalizations from youth suicides studies to the adult population, or vice-versa, problematic.

· **Cohort Effects**. Most studies did not attempt to account for cohort effects that may have been operating. That is, there may be greater acceptance of GLB over time, which may encourage more openness, at earlier ages, about sexual orientation.

· **Social Desirability**. This could have resulted in participants under-reporting their sexual orientation, homophobia, or illegal/stigmatized behaviours. Researchers can only make conclusions about GLB who have already self-identified as GLB in their studies.

- **Unmeasured, Overlapping and Confounding Variables, and Temporal and Causal Order of Variables**. The interpretation of the causal and temporal role of psychological and social stress related to homosexuality and health and social issues (e.g. illicit drug use, depression) is unclear due to possible confounds. For example, does homophobia cause stress that results in substance abuse and, ultimately, suicide? Or does substance abuse confound the relationship between stress and suicide? Other unanswered questions include: Do higher rates of alcohol abuse in GLB result from the stress of coping with homophobia? Or do higher rates of alcohol abuse in GLB result from many GLB feeling that bars are the only safe place to meet and gather, with alcohol abuse an outcome of the amount of time spent in bars? Additionally, increased rates of health problems in GLB may be the result of an unmeasured factor, unrelated to homophobia, such as childhood abuse. Another example is that internalized homophobia overlaps with several other relevant concepts, such as self-esteem (Williamson, 2000). Many studies do not account for the possibility that variables overlap with each other.
- **Real Versus Perceived Homophobia**. Negative effects of homophobia may be primarily caused by inaccurate perceptions by GLB, and not as a result of actual behaviours by others (Frable et al, 1997).

Further Research Needed

There are numerous indicators that the increased incidence of health and social problems found in the GLB population are related to the stigma and shame associated with living in a homophobic society (Ryan et al, 2000), yet there is a shortage of rigorous research exploring this problem directly.

HIV/AIDS is often the focus of the health of GLB individuals. However, there is a myriad of other health and social issues affecting GLB that receive far less attention (Rofes, 2000; Ryan et al, 2000). Many of these health and social issues are related to homophobia's effect (e.g. alcohol abuse, smoking, guilt, shame, depression). Policy makers are slowly beginning to incorporate research on the impact of stigmatization and prejudice on GLB health (Saunders, 2000), but research needs to be conducted on the motivations of homophobia, the specific cognitive processes associated with homophobia, the specific adverse effects of homophobia on GLB, the causal direction of these effects, the differential effects on different subpopulations of GLB, and which prevention efforts are effective in reducing homophobia[9] and its effects on GLB.

Methodological Improvements Needed

Concomitant with the research suggested above, several researchers have recommended methodological improvements in the area of homophobia and GLB health and social issues. Some suggestions include:

· Use statistical probability sampling methods (Stein, 1999; Ryan et al, 2000; Sell and Petrulio, 1996) or multiple sampling methods (Skinner and Otis, 1996).

· Obtain samples from multiple recruitment sites if convenience samples are used (Ryan et al, 2000; Sell and Petrulio, 1996).

· Draw subjects from various cultures and sub-cultural groups where sexual desires may be organized differently (Stein, 1999).

· Include separate analyses of homosexual males, homosexual females, bisexual males, and bisexual females because those groups constitute distinct communities.

· Evaluate subjects' sexual orientations through detailed longitudinal sexual histories (Stein, 1999).

· Take greater care not to allow cultural assumptions about sexual desires and how they are organized to influence classification of subjects and interpretation of study results (Stein, 1999).

· Consider indirect theories in addition to direct ones in deciding how to interpret the data (Stein, 1999).

· Be less reliant on self-report data (Stein, 1999).

· Use longitudinal designs that track changes in health and social issues, behaviours, desires, and identity, and the reliability of responses over a period of time and/of across the life span (Stein, 1999; Remafedi et al, 1998).

· Use standardized and detailed conceptual and operational definitions of homosexuality. Operational definitions should be developed from conceptual definitions (Roberts and Sorensen, 1999; Ryan et al, 2000; Sell and Petrulio, 1996).

· Use appropriate heterosexual comparison groups matched on relevant variables such as income, education, and location (Roberts and Sorensen, 1999).

· Attempt to uncover more of the hidden GLB population in order to find more representative samples (e.g. snowball sampling technique (Roberts and Sorensen, 1999).

· Create contexts in which GLB feel comfortable sharing their sexual histories and health related behaviours (e.g. interviewing techniques that build rapport) (Stein, 1999).

· Use techniques that involve collaboration with community organizations and establish projects meaningful to GLB (Skinner and Otis, 1996).

· Employ community members as stewards of personal information for obtaining large samples (Skinner and Otis, 1996).

· Take into account different attributes of suburban, rural, and urban GLB (Bagley and Tremblay, 1997a).

· Include questions about sexual orientation in large-scale population surveys, as large samples are needed for meaningful sub-population analyses (i.e. GLB sub-population) (Remafedi, 1999a).

Notes

[1]Some researchers have argued that the "gay lifestyle" choice accounts for increased smoking and alcohol abuse rates.

[2]Ross and Rosser (1996) have developed a scale to measure internalized homophobia.

[3]Remafedi et al (1991) found that about one-third of subjects in their study reported that their suicide attempts had roots in personal issues about their homosexual identity.

[4]Statistics Canada (2001e) found that 23% of Canadians reported smoking daily in 1998-1999.

[5]Exacerbating this is evidence that GLB are specifically targeted by tobacco companies (Goebel, 1994).

[6]Although there is some evidence that GLB have a higher incidence of other mental disorders, such as Generalized Anxiety Disorder and Conduct Disorder, most evidence has centered on major depression. Therefore, only that specific mental disorder was reviewed in the present report.

[7]Several reviews have found that HIV prevention interventions for GLB youths are effective at reducing HIV transmission, and are cost effective compared to the potential economic cost to society of increased HIV/AIDS cases (Pinkerton, Holtgrave et al, 1998; Tao and Remafedi, 1998; Grossman et al, 2000).

[8]See Ryan, Brotman and Rowe (2000) for an extensive review of this area.

[9]For example, see Serdahely and Ziemba (1985) or Herek (1991).

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Appendix A. Calculations for Economic Impact Estimates.

Table 16. Homophobia and Suicide: Estimated Annual Costs.

Basic Statistics (1997)	Estimated Number of Suicides (1997)	Estimated Annual Costs (1997)
• GLB base rate = 5% • Total population = 29,987,200 • Non-GLB population = 28,487,840 • GLB population = 1,499,360 • Cost per suicide = $849,878	• Completed suicides = 30% GLB • Total suicides in Canada = 3681 • Non-GLB suicides = 2577 • GLB suicides = 1104	• Only 5% as opposed to 30% of completed suicides should be GLB • Non-GLB suicides constant = 2577 • Total suicides if GLB and non-GLB equivalent = 2713 • GLB suicides = 136 (instead of 1104 GLB suicides, there should be 136 so difference is 968) **• Total annual cost of homophobia related to suicide: 968 * $849,878 = $822,681,904**
	• GLB suicide rate 6 times the non-GLB rate • Total suicide rate = 0.00012275 • Non-GLB suicide rate = 0.00009820 • Non-GLB suicides = 2798 • GLB suicide rate = 0.00058921 • GLB suicides = 883	• GLB and non-GLB suicides rates should be equivalent • Non-GLB suicides constant = 2798 • Total suicides if GLB and non-GLB rates equivalent = 2945 • GLB suicides = 147 (instead of 1104 GLB suicides, there should be 147, so difference is 957) **• Total annual cost of homophobia related to suicide: 957 * $849,878 = $813,333,246**
• GLB base rate = 10% • Total population = 29,987,200 • Non-GLB population = 26,988,480 • GLB population = 2,998,720 • Cost per suicide = $849,878	• Completed suicides = 30% GLB • Total suicides in Canada = 3681 • Non-GLB suicides = 2577 • GLB suicides = 1104	• Only 10% as opposed to 30% of completed suicides should be GLB • Non-GLB suicides constant = 2577 • Total suicides if GLB and non-GLB equivalent = 2863 • GLB suicides = 286 (instead of 1104 GLB suicides, there should be 286 so difference is 818) **• Total annual cost of homophobia related to suicide: 818 * $849,878 = $695,200,204**
	• GLB suicide rate 6 times the non-GLB rate • Total suicide rate = 0.00012275 • Non-GLB suicide rate = 0.00008183 • Non-GLB suicides = 2209 • GLB suicide rate = 0.00049101 • GLB suicides = 1472	• GLB and non-GLB suicides rates should be equivalent • Non-GLB suicides constant = 2209 • Total suicides if GLB and non-GLB rates equivalent = 2454 • GLB suicides = 245 (instead of 1104 GLB suicides, there should be 245, so difference is 859) **• Total annual cost of homophobia related to suicide: 859 * $849,878 = $730,045,202**

On the surface, it seems that the estimated annual cost of suicide as related to homophobia should be greater when the base rate of homosexuality is higher. This, however, is not the case. The reason that the 5% base rate estimates are greater than the 10% base rate estimates has to do with the method of estimating the number of GLB suicides per year and the calculation of how many GLB suicides there should be if GLB and non-GLB suicide rates were equivalent. One estimate of GLB suicide rates stated that 30% of all suicides are GLB. Without homophobia, GLB should account for either 5% or 10% of suicides based on the 5% and 10% base rates of homosexuality estimates. Therefore, when calculating how many GLB suicides there should be, the 5% base rate estimate results in fewer GLB suicides than the 10% base rate estimate (136 for 5% and 245 for 10%). Therefore, the difference between how many GLB suicides there are estimated to be now (1104) compared to how many there should be without homophobia is greater for the 5% base rate estimate than for the 10% base

Table 17. Homophobia and Smoking: Estimated Annual Costs.

Basic Statistics (1999)	Estimated Smoking Rates (1999)	Estimated Annual Costs (1999)
• GLB base rate = 5% • Total adult Canadian population = 24,300,000 • Total non-GLB adult population = 23,085,000 • Total GLB adult population = 1,215,000 • Cost per smoker = $1567	• Total smoking rate = 0.2500 • Total smokers = 6,075,000 • Non-GLB smoking rate = 0.2426 • Non-GLB smokers = 5,601,150 • GLB smoking rate = 0.3900 • GLB smokers = 473,850	• Smoking rates of GLB should be equivalent to non-GLB • Non-GLB smokers constant = 5,601,150 • Total smokers if GLB and non-GLB rates equivalent = 5,892,750 • GLB smokers = 294,759 (instead of 473,859, there should be 294,759, so difference is 179,100) • **Total annual cost of homophobia related to smoking: 179,100 * $1567 = $280,649,700**
	• GLB smoking rate 1.7 times the non-GLB rate • Total smoking rate = 0.2500 • Total smokers = 6,075,000 • Non-GLB smoking rate = 0.2415 • Non-GLB smokers = 5,576,087 • GLB smoking rate = 0.4106 • GLB smokers = 498,913	• Smoking rates of GLB should be equivalent to non-GLB • Non-GLB smokers constant = 5,576,087 • Total smokers if GLB and non-GLB rates equivalent = 5,869,510 • GLB smokers = 293,423 (instead of 498,913, there should be 293,423, so difference is 205,490) • **Total annual cost of homophobia related to smoking: 205,490 * $1567 = $340,496,930**
• GLB base rate = 10% • Total adult Canadian population = 24,300,000 • Total non-GLB adult population = 21,870,000 • Total GLB adult population = 2,430,000 • Cost per smoker = $1567	• Total smoking rate = 0.2500 • Total smokers = 6,075,000 • Non-GLB smoking rate = 0.2344 • Non-GLB smokers = 5,127,300 • GLB smoking rate = 0.3900 • GLB smokers = 947,700	• Smoking rates of GLB should be equivalent to non-GLB • Non-GLB smokers constant = 5,127,300 • Total smokers if GLB and non-GLB rates equivalent = • GLB smokers = 569,592 (instead of 947,700, there should be 569,592, so difference is 378,108) • **Total annual cost of homophobia related to smoking: 378,108 * $1567 = $592,495,236**
	• GLB smoking rate 1.7 times the non-GLB rate • Total smoking rate = 0.2500 • Total smokers = 6,075,000 • Non-GLB smoking rate = 0.2336 • Non-GLB smokers = 5,108,832 • GLB smoking rate = 0.3972 • GLB smokers = 965,196	• Smoking rates of GLB should be equivalent to non-GLB • Non-GLB smokers constant = 5,108,832 • Total smokers if GLB and non-GLB rates equivalent = 5,676,480 • GLB smokers = 567,648 (instead of 965,196, there should be 567,648, so difference is 397,548) • **Total annual cost of homophobia related to smoking: 397,548 * $1567 = $622,957,716**

rate (1104 - 136 = 968 for 5% base rate; 1104 - 245 = 859 for 10% with base rate). This results in a higher estimated cost of homophobia for the 5% base rate method. Put another way, the more GLB people there are, the greater the percentage of suicides for which they will account.

Table 18. Homophobia and Alcohol Abuse: Estimated Annual Costs.

Basic Statistics (2000)	Estimated Alcohol Abuse Rates (2000)	Estimated Annual Costs (2000)
• GLB base rate = 5% • Total adult Canadian population = 24,879,199 • Total non-GLB adult population = 23,635,239 • Total GLB adult population = 1,243,960 • Cost per alcohol abuser = $7881	• Total alcohol abuse rate = 0.05 • Total alcohol abusers = 1,243,960 • Non-GLB alcohol abuse rate = 0.0400 • Non-GLB alcohol abusers = 945,410 • GLB alcohol abuse rate = 0.2400 • GLB alcohol abusers = 298,550	• Alcohol abuse rates of GLB should be equivalent to non-GLB • Non-GLB alcohol abusers constant = 945,410 • Total alcohol abusers if GLB and non-GLB rates equivalent = 995,168 • GLB alcohol abusers = 49,758 (instead of 298,550, there should be 49,758, so difference is 248,792) • **Total annual cost of homophobia related to alcohol abuse: 248,792 * $7881 = $1,960,729,752**
	• GLB alcohol abuse rate 1.6 times the non-GLB rate • Total alcohol abuse rate = 0.05 • Total alcohol abusers = 1,243,960 • Non-GLB alcohol abuse rate = 0.0485 • Non-GLB alcohol abusers = 1,147,342 • GLB alcohol abuse rate = 0.0777 • GLB alcohol abusers = 96,618	• Alcohol abuse rates of GLB should be equivalent to non-GLB • Non-GLB alcohol abusers constant = 1,147,342 • Total alcohol abusers if GLB and non-GLB rates equivalent = 1,207,728 • GLB alcohol abusers = 60,386 (instead of 96,618, there should be 60,386, so difference is 36232) • **Total annual cost of homophobia related to alcohol abuse: 36,232 * $7881 = $285,544,392**
• GLB base rate = 10% • Total adult Canadian population = 24,879,199 • Total non-GLB adult population = 22,391,279 • Total GLB adult population = 2,487,920 • Cost per alcohol abuser = $7881	• Total alcohol abuse rate = 0.05 • Total alcohol abusers = 1,243,960 • Non-GLB alcohol abuse rate = 0.0289 • Non-GLB alcohol abusers = 646,859 • GLB alcohol abuse rate = 0.2400 • GLB alcohol abusers = 597,101	• Alcohol abuse rates of GLB should be equivalent to non-GLB • Non-GLB alcohol abusers constant = 646,859 • Total alcohol abusers if GLB and non-GLB rates equivalent = 718,760 • GLB alcohol abusers = 71,901 (instead of 597,101, there should be 71,901, so difference is 525,200) • **Total annual cost of homophobia related to alcohol abuse: 525,200 * $7881 = $4,139,101,200**
	• GLB alcohol abuse rate 1.6 times the non-GLB rate • Total alcohol abuse rate = 0.05 • Total alcohol abusers = 1,243,960 • Non-GLB alcohol abuse rate = 0.0472 • Non-GLB alcohol abusers = 1,056,192 • GLB alcohol abuse rate = 0.0755 • GLB alcohol abusers = 187,768	• Alcohol abuse rates of GLB should be equivalent to non-GLB • Non-GLB alcohol abusers constant = 1,056,192 • Total alcohol abusers if GLB and non-GLB rates equivalent = 1,173,547 • GLB alcohol abusers = 117,355 (instead of 187,768 there should be 117,355, so difference is 70,413) • **Total annual cost of homophobia related to alcohol abuse: 70,413 * $7881 = $554,924,853**

Table 19. Homophobia and Illicit Drug Use: Estimated Annual Costs.

Basic Statistics (2000)	Estimated Alcohol Abuse Rates (2000)	Estimated Annual Costs (2000)
• GLB base rate = 5% • Total adult Canadian population = 24,879,199 • Total non-GLB adult population = 23,635,239 • Total GLB adult population = 1,243,960 • Cost per illicit drug user = $1837	• GLB illicit drug use rate 2.6 times the non-GLB rate • Total illicit drug use rate = 0.035 • Total illicit drug users = 870,772 • Non-GLB illicit drug use rate = 0.0324 • Non-GLB illicit drug users = 765,957 • GLB illicit drug use rate = 0.0843 • GLB illicit drug users = 104,815	• Illicit drug use rates of GLB should be equivalent to non-GLB • Non-GLB illicit drug users constant = 765,957 • Total illicit drug users if GLB and non-GLB rates equivalent = 806,261 • GLB illicit drug users = 40,304 (instead of 104,815 there should be 40,304, so difference is 64,511) • **Total annual cost of homophobia related to illicit drug use: 64,511 * $1837 = $118,506,707**
• GLB base rate = 10% • Total adult Canadian population = 24,879,199 • Total non-GLB adult population = 22,391,279 • Total GLB adult population = 2,487,920 • Cost per illicit abuser = $1837	• GLB illicit drug use rate 2.6 times the non-GLB rate • Total illicit drug use rate = 0.035 • Total illicit drug users = 870,772 • Non-GLB illicit drug use rate = 0.0302 • Non-GLB illicit drug users = 675,599 • GLB illicit drug use rate = 0.0784 • GLB illicit drug users = 195,173	• Illicit drug use rates of GLB should be equivalent to non-GLB • Non-GLB illicit drug users constant = 675,599 • Total illicit drug users if GLB and non-GLB rates equivalent = 750,666 • GLB illicit drug users = 75,067 (instead of 195,173 there should be 75,067, so difference is 120,106) • **Total annual cost of homophobia related to illicit drug use: 120,106 * $1837 = $220,634,722**

Table 20. Homophobia and Depression: Estimated Annual Costs.

Basic Statistics (2000)	Estimated Alcohol Abuse Rates (2000)	Estimated Annual Costs (2000)
• GLB base rate = 5% • Total adult Canadian population = 24,879,199 • Total non-GLB adult population = 23,635,239 • Total GLB adult population = 1,243,960 • Cost per depression sufferer = $8039	• Total depression rate = 0.05 • Total depression sufferers = 1,243,960 • Non-GLB depression rate = 0.446 • Non-GLB depression sufferers = 1,053,634 • GLB depression rate = 0.1530 • GLB depression sufferers = 190,326	• Depression rate of GLB should be equivalent to non-GLB • Non-GLB depression sufferers constant = 1,053,634 • Total depression sufferers if GLB and non-GLB rates equivalent = 1,109,088 • GLB depression sufferers = 55,454 (instead of 190,326, there should be 55,454, so difference is 134,872) • **Total annual cost of homophobia related to depression: 134,872 * $8039 = $1,084,236,008**
	• GLB depression rate 2.15 times the non-GLB rate • Total depression rate = 0.05 • Total depression sufferers = 1,243,960 • Non-GLB depression rate = 0.0473 • Non-GLB depression sufferers = 1,117,505 • GLB depression rate = 0.1017 • GLB depression sufferers = 126,455	• Depression rate of GLB should be equivalent to non-GLB • Non-GLB depression sufferers constant = 1,117,505 • Total depression sufferers if GLB and non-GLB rates equivalent = 1,176,321 • GLB depression sufferers = 58,816 (instead of 126,455, there should be 58,816, so difference is 67,639) • **Total annual cost of homophobia related to depression: 67,639 * $8039 = $543,749,921**
• GLB base rate = 10% • Total adult Canadian population = 24,879,199 • Total non-GLB adult population = 22,391,279 • Total GLB adult population = 2,487,920 • Cost per depression sufferer = $8039	• Total depression rate = 0.05 • Total depression sufferers = 1,243,960 • Non-GLB depression rate = 0.0386 • Non-GLB depression sufferers =863,308 • GLB depression rate = 0.1530 • GLB depression sufferers = 380,652	• Depression rate of GLB should be equivalent to non-GLB • Non-GLB depression sufferers constant = 863,308 • Total depression sufferers if GLB and non-GLB rates equivalent = 959,231 • GLB depression sufferers = 95,923 (instead of 380,652, there should be 95,923, so difference is 284,729) • **Total annual cost of homophobia related to depression: 284,729 * $8039 = $2,288,936,431**
	• GLB depression rate 2.15 times the non-GLB rate • Total depression rate = 0.05 • Total depression sufferers = 1,243,960 • Non-GLB depression rate = 0.0448 • Non-GLB depression sufferers = 1,004,093 • GLB depression rate = 0.0964 • GLB depression sufferers = 239,867	• Depression rate of GLB should be equivalent to non-GLB • Non-GLB depression sufferers constant = 1,004,093 • Total depression sufferers if GLB and non-GLB rates equivalent = 1,115,659 • GLB depression sufferers = 111,566 (instead of 239,867, there should be 111,566, so difference is) • **Total annual cost of homophobia related to depression: 128,301 * $8039 = $1,031,411,739**

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